APPENDIX H

DATA VALIDATION REPORTS

Report from ECS Environmental Chemistry Services, January 5, 2005 (135 pages)

Report from ECS Environmental Chemistry Services, December 30, 2005 (20 pages)

ECS Environmental Chemistry Services

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DATA VALIDATION REPORT

SAUGET AREA I
SAUGET, ILLLINOIS
SOIL, GROUNDWATER, AND NAPL STUDY

MAY 19 THROUGH OCTOBER 27, 2004

Prepared for
Groundwater Services, Inc.
Houston, Texas
January 5, 2005

ECS Environmental Chemistry Services

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1.0 INTRODUCTION

Two hundred and thirty-nine soil, one groundwater, and two NAPL samples were collected by Groundwater Services, Inc. from Sauget Area I in Sauget, Illinois from May 19 through October 27, 2004. Twelve trip blanks, nineteen rinsate blanks, and twenty-seven field duplicates were also collected. The samples were relinquished by GSI under documented chain-of-custody for transport to Severn Trent Services in Savannah, Georgia. All samples were analyzed by the Seven Trent Services laboratory in Savannah, Georgia except the dioxin analyses. The dioxin analyses were transported under documented chain of custody for transport and analysis to the Seven Trent Services laboratory in Sacramento, California.

The samples covered by this data validation report were analyzed for some or all of the following parameters by the methods shown:

PARAMETER	PREPRATORY METHOD	ANALYTICAL METHOD
Volatiles	NA	8260B
Semivolatiles	3520C	8270C
Organochlorine Pesticides	3520C	8081A
Polychlorinated Biphenyls	3520C	680
Herbicides	3510C	8151A
Total aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc	3005A	6010B
Mercury	NA	7470A
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans	NA	8280A

Data were qualified using data validation performed on all of the quality control data provided with a particular sample. Each analyte was identified as one of the following:

- Acceptable for use without restriction
- Qualified as an estimated concentration with a "J"
- Qualified as not detected with an estimated detection limit with a "UJ"
- Qualified as undetected with a "U"
- Rejected as unusable for the intended use with an "R"

For volatile organic, semivolatile organic, organochlorine pesticide, PCB, herbicide, and dioxin data, the following items were checked in accordance with the procedures set forth in the USEPA document entitled Contract Laboratory Program National Functional Guidelines for Organic Data Review using the method criteria, if applicable:

- Holding Times
- GC/MS Instrument Performance
- Initial Calibration
- Continuing Calibration
- Blanks
- System Monitoring Compounds (Surrogate Samples)
- Matrix Spike/ Matrix Spike Duplicates
- Laboratory Control Samples
- Internal Standards
- Compound Identification
- Compound Quantitation
- Overall Assessment of Data

For metal and total organic carbon data, the following items were checked in accordance with the procedures set forth in the USEPA document entitled Contract Laboratory Program National Functional Guidelines for Organic Data Review using the QA/QC method criteria, if applicable:

- Holding Times
- Calibration
- Blanks

- ICP Interference Check Sample (all metal analytes except mercury)
- Laboratory Control Samples
- Duplicate Sample Analysis
- Spike Sample Analysis
- Atomic Absorption QC (mercury only)
- ICP Serial Dilution (all metal analytes except mercury)
- Overall Assessment of Data

2.0 DATA REVIEW OF VOLATILE ORGANIC COMPOUNDS

The following samples were analyzed for volatiles in this data validation report:

SDG	LAB SAMPLE ID	FIELD SAMPLE ID	MATRIX	DATE COLLECTED
SDN001	S444433-1	EE-11 NAPL	OIL	05/19/04
SDN002	S448518-1	A1-03 8.5-11	SOIL	09/10/04
	S448518-2	A1-03 11-13.5	SOIL	09/10/04
	S448518-3	A1-03 22.5-25	SOIL	09/10/04
	S448518-4	A1-03 32.5-35	SOIL	09/10/04
	S448518-5	A1-03 47.5-50	SOIL	09/10/04
	S448518-6	A1-03 57.5-60	SOIL	09/10/04
	S448518-7	A1-03 60-62.5	SOIL	09/10/04
	S448518-8	A1-03 72.5-75	SOIL	09/10/04
	S448518-9	A1-03 72.5-75D	SOIL	09/10/04
	S448518-10	A1-03 82.5-85	SOIL	09/10/04
	S448518-11	A1-03 92.5-95	SOIL	09/10/04
	S448518-12	A1-03 102.5-105	SOIL	09/10/04
SDN003	S448553-1	A1-02 7.5-10	SOIL	09/11/04
	S448553-2	A1-02 12.5-15	SOIL	09/11/04
	S448553-3	A1-02 22.5-25	SOIL	09/11/04
	S448553-4	A1-02 32.5-35	SOIL	09/11/04
	S448553-5	A1-02 47.5-50	SOIL	09/11/04
	S448553-6	A1-02 50-52.5	SOIL	09/11/04
	S448553-7	A1-02 62.5-65	SOIL	09/11/04
	S448553-8	A1-02 75-77.5	SOIL	09/12/04
	S448553-9	A1-02 75-77.5 DUP	SOIL	09/12/04
	S448553-10	A1-02 82.5-85	SOIL	09/12/04
	S448553-11	A1-02 82.5-85 DUP	SOIL	09/12/04
	S448553-12	A1-02 90-92.5	SOIL	09/12/04
	S448553-13	A1-02 105-107	SOIL	09/12/04
	S448553-16	A1-02 RB (09/11/04)	AQUEOUS	09/11/04
	S448553-17	A1-02 RB (09/13/04)	AQUEOUS	09/13/04
	S448553-18	Trip Blank	AQUEOUS	09/12/04
SDN004	S448640-1	A1-16 5-7.5	SOIL	09/13/04
	S448640-2	A1-16 17.5-20	SOIL	09/13/04
	S448640-3	A1-16 27.5-30	SOIL	09/13/04
	S448640-4	A1-16 35-37.5	SOIL	09/13/04
	S448640-5	A1-16 42.5-45	SOIL	09/13/04
	S448640-6	A1-16 50-52.5	SOIL	09/13/04
	S448640-7	A1-16 50-52.5 DUP	SOIL	09/13/04
	S448640-8	A1-16 60-62.5	SOIL	09/13/04
SDN004	S448640-9	A1-16 60-62.5 DUP	SOIL	09/13/04

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SDG	LAB SAMPLE ID	FIELD SAMPLE ID	MATRIX	DATE COLLECTED
	S448640-10	A1-16 75-77.5	SOIL	09/13/04
	S448640-11	A1-16 87.5-90	SOIL	09/13/04
	S448640-12	A1-16 92.5-95	SOIL	09/13/04
	S448640-13	A1-16 105-107.5	SOIL	09/13/04
SDN005	S448772-1	A1-11 5-7.5	SOIL	09/14/04
	S448772-2	A1-11 10-12.5	SOIL	09/14/04
	S448772-3	A1-11 20-22.5	SOIL	09/14/04
	S448772-4	A1-11 30-32.5	SOIL	09/14/04
	S448772-5	A1-11 40-42.5	SOIL	09/15/04
	S448772-6	A1-11 40-42.5 DUP	SOIL	09/15/04
	S448772-7	A1-11 57.5-60	SOIL	09/15/04
	S448772-8	A1-11 62.5-65	SOIL	09/15/04
	S448772-9	A1-11 72.5-75	SOIL	09/15/04
	S448772-10	A1-11 72.5-75 DUP	SOIL	09/15/04
	S448772-11	A1-11 82.5-85	SOIL	09/15/04
	S448772-12	A1-11 92.5-95	SOIL	09/15/04
	S448772-13	A1-11 102.5-105	SOIL	09/15/04
	S448772-17	A1-11 RB	AQUEOUS	09/16/04
	S448772-18	A1-16 RB	AQUEOUS	09/14/04
SDN006	S449066-1	A1-08 5.0-7.5	SOIL	09/22/04
	S449066-2	A1-08 10.0-12.5	SOIL	09/22/04
	S449066-3	A1-08 22.5-25.0	SOIL	09/22/04
	S449066-4	A1-08 30.0-32.5	SOIL	09/22/04
	S449066-5	A1-08 47.5-50.0	SOIL	09/22/04
	S449066-6	A1-08 47.5-50.0 DUP	SOIL	09/22/04
	S449066-7	A1-08 57.5-60.0	SOIL	09/22/04
	S449066-8	A1-08 60.0-62.5	SOIL	09/22/04
	S449066-9	A1-08 70.0-72.5	SOIL	09/22/04
	S449066-10	A1-08 82.5-85	SOIL	09/22/04
	S449066-11	A1-08 90.09-92.5	SOIL	09/22/04
	S449066-12	A1-08 102.5-105	SOIL	09/22/04
	S449066-15	A1-08 RB	AQUEOUS	09/23/04
	S449066-16	Trip Blank	AQUEOUS	09/22/04
SDN007	S449132-1	A1-18 7.5-10	SOIL	09/24/04
	S449132-2	A1-18 7.5-10 DUP	SOIL	09/24/04
	S449132-3	A1-18 12.5-15	SOIL	09/24/04
	S449132-4	A1-18 27.5-30	SOIL	09/24/04
	S449132-5	A1-18 32.5-35	SOIL	09/24/04
	S449132-6	A1-18 40-42.5	SOIL	09/24/04
	S449132-7	A1-18 52.5-55	SOIL	09/24/04
	S449132-8	A1-18 67.5-70	SOIL	09/24/04
	S449132-9	A1-18 72.5-75	SOIL	09/24/04
	S449132-10	A1-18 85-87.5	SOIL	09/24/04
	S449132-11	A1-18 85-87.5 DUP	SOIL	09/24/04
SDN007	S449132-12	A1-18 95-97.5	SOIL	09/24/04

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SDG	LAB SAMPLE ID	FIELD SAMPLE ID	MATRIX	DATE COLLECTED
	S449132-13	A1-18 105-107	SOIL	09/24/04
	S449132-14	A1-18 110-112	SOIL	09/24/04
	S449132-18	A1-18 RB	AQUEOUS	09/24/04
SDN008	S449161-1	A1-07 (0-2.5)	SOIL	09/27/04
	S449161-2	A1-07 (10.0-12.5)	SOIL	09/27/04
	S449161-3	A1-07 (35.0-37.6)	SOIL	09/27/04
	S449161-4	A1-07 (35.0-37.5 DUP)	SOIL	09/27/04
	S449161-5	A1-07 (47.5-50.0)	SOIL	09/27/04
	S449161-6	A1-07 (52.5-55.0)	SOIL	09/27/04
	S449161-7	A1-07 (67.5-70.0)	SOIL	09/27/04
	S449161-8	A1-07 (75.0-77.5)	SOIL	09/27/04
	S449161-9	A1-07 (87.5-90.0)	SOIL	09/27/04
	S449161-10	A1-07 (97.5-100.0)	SOIL	09/27/04
	S449161-11	A1-07 (100.0-102.5)	SOIL	09/27/04
	S449161-12	A1-07 (110.0-111.0)	SOIL	09/27/04
	S449161-13	A1-07 (20.0-22.5)	SOIL	09/27/04
	S449161-17	A1-07 RB	AQUEOUS	09/28/04
	S449161-18	Trip Blank	AQUEOUS	09/28/04
SDN009	S449183-1	A1-04 (7.5-10.0)	SOIL	09/25/04
	S449183-2	A1-04 (7.5-10.0) DUP	SOIL	09/25/04
	S449183-3	A1-04 (12.5-15.0)	SOIL	09/25/04
	S449183-4	A1-04 (20-22.5)	SOIL	09/25/04
	S449183-5	A1-04 (35.0-37.5)	SOIL	09/25/04
	S449183-6	A1-04 (40.0-42.5)	SOIL	09/25/04
	S449183-7	A1-04 (57.5-60.0)	SOIL	09/25/04
	S449183-8	A1-04 (67.5-70.0)	SOIL	09/25/04
	S449183-9	A1-04 (70.0-72.5)	SOIL	09/25/04
	S449183-10	A1-04 (80.0-82.5)	SOIL	09/25/04
	S449183-11	A1-04 (92.5-95.0)	SOIL	09/25/04
	S449183-12	A1-04 (105.0-107.5)	SOIL	09/25/04
	S449183-16	A1-04 RB	AQUEOUS	09/25/04
	S449183-17	Trip Blank	AQUEOUS	09/25/04
SDN010	S449222-1	A1-10 (5.0-7.5)	SOIL	09/27/04
	S449222-2	A1-10 (20.0-22.5)	SOIL	09/27/04
	S449222-3	A1-10 (20.0-22.5) DUP	SOIL	09/27/04
	S449222-4	A1-10 (35.0-37.5)	SOIL	09/27/04
	S449222-5	A1-10 (40.0-42.5)	SOIL	09/27/04
	S449222-6	A1-10 (40.0-42.5) DUP	SOIL	09/27/04
	S449222-7	A1-10 (57.5-60.0)	SOIL	09/27/04
	S449222-8	A1-10 (65.0-67.5)	SOIL	09/27/04
	S449222-9	A1-10 (75.0-77.5)	SOIL	09/27/04
	S449222-10	A1-10 (75.0-77.5) DUP	SOIL	09/27/04
	S449222-11	A1-10 (80.0-82.5)	SOIL	09/27/04
	S449222-12	A1-10 (90.0-92.5)	SOIL	09/27/04
SDN010	S449222-13	A1-10 (105.0-107.5)	SOIL	09/27/04

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SDG	LAB SAMPLE ID	FIELD SAMPLE ID	MATRIX	DATE COLLECTED
	S449222-17	A1-10 RB	AQUEOUS	09/28/04
	S449222-18	Trip Blank	AQUEOUS	09/28/04
SDN011	S449283-1	A1-09 (5.0-7.5)	SOIL	09/29/04
	S449283-2	A1-09 (17.5-20.0)	SOIL	09/29/04
	S449283-3	A1-09 (25.0-27.5)	SOIL	09/29/04
	S449283-4	A1-09 (25.0-27.5) DUP	SOIL	09/29/04
	S449283-5	A1-09 (32.5-35.0)	SOIL	09/29/04
	S449283-6	A1-09 (42.5-45.0)	SOIL	09/29/04
	S449283-7	A1-09 (57.5-60.0)	SOIL	09/29/04
	S449283-8	A1-09 (65.0-67.5)	SOIL	09/29/04
	S449283-9	A1-09 (65.0-67.5) DUP	SOIL	09/29/04
	S449283-10	A1-09 (77.5-80.0)	SOIL	09/29/04
	S449283-11	A1-09 (82.5-85.0)	SOIL	09/29/04
	S449283-12	A1-09 (92.5-95.0)	SOIL	09/29/04
	S449283-13	A1-09 (105.0-107.5)	SOIL	09/29/04
	S449283-17	A1-09 RB	AQUEOUS	09/29/04
	S449283-18	Trip Blank	AQUEOUS	09/29/04
	S449386-1	A1-17 5.0-7.5	SOIL	09/30/04
	S449386-2	A1-17 17.5-20.0	SOIL	09/30/04
	S449386-3	A1-17 22.5-25.0	SOIL	09/30/04
	S449386-5	A1-17 RB	AQUEOUS	09/30/04
	S449386-6	Trip Blank	AQUEOUS	09/30/04
SDN012	S449560-1	A1-12 7.5-10	SOIL	10/05/04
	S449560-2	A1-12 12.5-15	SOIL	10/05/04
	S449560-3	A1-12 22.5-25	SOIL	10/05/04
	S449560-4	A1-12 37.5-40	SOIL	10/05/04
	S449560-5	A1-12 37.5-40 DUP	SOIL	10/05/04
	S449560-6	A1-12 47.5-50	SOIL	10/05/04
	S449560-7	A1-12 52.5-55	SOIL	10/05/04
	S449560-8	A1-12 62.5-65	SOIL	10/05/04
	S449560-9	A1-12 72.5-75	SOIL	10/05/04
	S449560-10	A1-12 80-82.5	SOIL	10/05/04
	S449560-11	A1-12 97.5-100	SOIL	10/05/04
	S449560-12	A1-12 110-112	SOIL	10/05/04
	S449560-16	A1-12 RB	AQUEOUS	10/05/04
	S449560-17	Trip Blank	AQUEOUS	10/05/04
SDN013	S449682-1	A1-6 (2.5-5.0)	SOIL	10/06/04
	S449682-2	A1-6 (15.0-17.5)	SOIL	10/06/04
	S449682-3	A1-6 (27.5-30.0)	SOIL	10/06/04
	S449682-4	A1-6 (30.0-32.5)	SOIL	10/06/04
	S449682-5	A1-6 (40.0-42.5)	SOIL	10/06/04
	S449682-6	A1-6 (40.0-42.5) DUP	SOIL	10/06/04
	S449682-7	A1-6 (67.5-70.0)	SOIL	10/06/04
	S449682-8	A1-6 (70.0-72.5)	SOIL	10/06/04
SDN013	S449682-9	A1-6 (85.0-87.5)	SOIL	10/06/04

SDG	LAB SAMPLE ID	FIELD SAMPLE ID	MATRIX	DATE COLLECTED
	S449682-10	A1-6 (97.5-100.0)	SOIL	10/06/04
	S449682-11	A1-6 (97.5-100.0) DUP	SOIL	10/06/04
	S449682-12	A1-6 (105.0-107.5)	SOIL	10/06/04
	S449682-13	A1-6 (50.0-52.5)	SOIL	10/06/04
	S449682-17	A1-6 RB	AQUEOUS	10/07/04
	S449682-18	Trip Blank	AQUEOUS	10/07/04
SDN014	S449733-1	A1-1 (0.0-2.5)	SOIL	10/07/04
	S449733-2	A1-1 (25.0-27.5)	SOIL	10/07/04
	S449733-3	A1-1 (35.0-37.5)	SOIL	10/07/04
	S449733-4	A1-1 (40.0-42.5)	SOIL	10/07/04
	S449733-5	A1-1 (40.0-42.5) DUP	SOIL	10/07/04
	S449733-6	A1-1 (50.0-52.5)	SOIL	10/07/04
	S449733-7	A1-1 (67.5-70.0)	SOIL	10/07/04
	S449733-8	A1-1 (72.5-75.0)	SOIL	10/07/04
	S449733-9	A1-1 (82.5-85.0)	SOIL	10/07/04
	S449733-10	A1-1 (82.5-85.0) DUP	SOIL	10/07/04
	S449733-11	A1-1 (97.5-100.0)	SOIL	10/07/04
	S449733-12	A1-1 (105.0-107.5)	SOIL	10/07/04
	S449733-13	A1-1 (12.5-15.0)	SOIL	10/07/04
	S449733-17	A1-1 RB	AQUEOUS	10/07/048
SDN015	S449757-1	A1-13 (2-4)	SOIL	10/09/04
	S449757-2	A1-13 (11-13.5)	SOIL	10/09/04
	S449757-3	A1-13 (19-21.5)	SOIL	10/09/04
	S449757-4	A1-13 (36-38.5)	SOIL	10/10/04
	S449757-5	A1-13 (36-38.5)DUP	SOIL	10/10/04
	S449757-6	A1-13 (64-66.5	SOIL	10/10/04
	S449757-7	A1-13 (76.5-79)	SOIL	10/10/04
	S449757-8	A1-13 (106-108.5)	SOIL	10/10/04
	S449757-12	A1-13 RB	AQUEOUS	10/11/04
	S449757-13	Trip Blank	AQUEOUS	10/11/04
SDN016	S449758-1	A1-5 (0-2.5)	SOIL	10/08/04
	S449758-2	A1-5 (12.5-15)	SOIL	10/08/04
	S449758-3	A1-5 (25-27.5)	SOIL	10/08/04
	S449758-4	A1-5 (30-32.5)	SOIL	10/08/04
	S449758-5	A1-5 (40-42.5)	SOIL	10/08/04
	S449758-6	A1-5 (50-52.5)	SOIL	10/08/04
	S449758-7	A1-5 (65-67.5)	SOIL	10/08/04
	S449758-8	A1-5 (77.5-80)	SOIL	10/08/04
	S449758-9	A1-5 (85-85.7)	SOIL	10/08/04
	S449758-10	A1-5 (95-97.5)	SOIL	10/08/04
	S449758-11	A1-5 (105-107.5)	SOIL	10/08/04
	S449758-12	A1-5 (50-52.5) DUP	SOIL	10/08/04
	S449758-13	A1-5 (85-87.5) DUP	SOIL	10/08/04
	S449758-17	A1-5 RB	AQUEOUS	10/08/04
SDN017	S449807-1	A1-14 (2.5-5.0)	SOIL	10/11/04

SDG	LAB SAMPLE ID	FIELD SAMPLE ID	MATRIX	DATE COLLECTED
	S449807-2	A1-14 (12.5-15.0)	SOIL	10/11/04
	S449807-3	A1-14 (25-27.5)	SOIL	10/11/04
	S449807-4	A1-14 (37.5-40)	SOIL	10/11/04
	S449807-5	A1-14 (45-47.5)	SOIL	10/11/04
	S449807-6	A1-14 (57.5-60.0)	SOIL	10/11/04
	S449807-7	A1-14 (60-62.5)	SOIL	10/11/04
	S449807-8	A1-14 (72.5-75.5)	SOIL	10/11/04
	S449807-9	A1-14 (85-87.5)	SOIL	10/11/04
	S449807-10	A1-14 (92.5-95.0)	SOIL	10/11/04
	S449807-11	A1-14 (102.5-105.0)	SOIL	10/11/04
	S449807-12	A1-14 (112.5-115.0)	SOIL	10/11/04
	S44980713	A1-14 (37.5-40) DUP	SOIL	10/11/04
	S449807-14	A1-14 (102.5-105.0) DUP	SOIL	10/11/04
	S449807-18	A1-14 RB	AQUEOUS	10/12/04
SDN018	S44865-1	A1-15 (7.5-10)	SOIL	10/13/04
	S44865-2	A1-15 (15-17.5)	SOIL	10/13/04
	S44865-3	A1-15 (25-27.5)	SOIL	10/13/04
	S44865-4	A1-15 (32.5-35)	SOIL	10/13/04
	S44865-5	A1-15 (32.5-35) DUP	SOIL	10/13/04
	S44865-6	A1-15 (45-47.5)	SOIL	10/13/04
	S44865-7	A1-15 (50-52.5)	SOIL	10/13/04
	S44865-8	A1-15 (60-62.5)	SOIL	10/13/04
	S44865-9	A1-15 (77.5-80)	SOIL	10/13/04
	S44865-10	A1-15 (85-87.5)	SOIL	10/13/04
	S44865-11	A1-15 (90-92.5)	SOIL	10/13/04
	S44865-12	A1-15 (105-107.5)	SOIL	10/13/04
	S449865-16	A1-15 RB	AQUEOUS	10/12/04
	S449865-18	Trip Blank	AQUEOUS	10/12/04
SDN019	S449920-1	A1-15 RB	AQUEOUS	10/14/04
SDN020	S450-452-1	BR-1 (NAPL)	OIL	10/27/04
SDN022	S450530-1	BR-G GW	AQUEOUS	10/03/04

2.1 Holding Times

The maximum holding time from date of collection to date of analysis for volatiles in aqueous, organic, and solid samples recommended in the Functional Guidelines is 14 days. These holding times were met for all of the volatile samples in this data set with the following exceptions:

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SDG	SAMPLE ID	HOLDING TIME EXCEEDANCE
SDN012	S449560-4DLRE	2 DAYS
	S449560-5DLRE	2 DAYS
	S44560-6DLRE	2 DAYS
	S44560-8DLRE	2 DAYS
	S44560-10DLRE	2 DAYS
SDN013	S449682-01RE	2 DAYS
	S449682-9RE	2 DAYS
SDN022	S450530-1	16 DAYS

Associated reported results were qualified as estimated with a "J" qualifier for detects and a "UJ" qualifier for non-detects or the data user was directed to use the original result instead of the reanalyzed result (denoted by an RE suffix).

2.2 GC/MS Instrument Performance

All of the mass calibrations for volatiles met the ion abundance criteria specified by SW-846. GC/MS tunes were conducted at the proper frequency (1 every 12 hours) for this data set. BFB ion abundance criteria were met on the following tunes:

SDG	GC/MS INSTRUMENT	DATE	TIME
SDN001	MSM5972	04/16/04	0900
	MSM5972	06/01/04	0955
SDN002	MSM5972	09/17/04	1546
	MSM5972	09/19/04	1805
	MSM5972	09/21/04	0853
SDN003	MSM5972	09/17/04	1546

SDG	GC/MS INSTRUMENT	DATE	TIME
	MSM5972	09/24/04	0902
SDN003	MSM5972	09/24/04	1835
	MSM5972	09/25/04	1012
SDN004	MSM5972	09/17/04	1546
	MSM5972	09/25/04	1012
	MSM5972	09/27/04	0911
SDN005	MSP5973	09/09/04	1720
	MSL5972	09/19/04	2202
	MSP5973	09/28/04	0802
	MSL5972	09/28/04	0935
	MSL5972	09/28/04	2023
SDN006	MSM5972	09/17/04	1546
	MSM5972	10/01/04	0910
	MSM5972	10/04/04	0923
SDN007	MSM5972	09/17/04	1546
	MSM5973	10/05/04	0943
	MSM5972	10/06/04	0922
	MSM5972	10/07/04	1048
SDN008	MSM5972	09/17/04	1546
	MSM5972	10/08/04	0911
SDN009	MSM5972	09/17/04	1546
	MSM5972	10/07/04	1048
	MSM5972	10/08/04	0911
SDN010	MSL5972	09/19/04	2202
	MSL5972	10/08/04	1959
	MSL5972	10/10/04	1838
SDN011	MSL5972	09/19/04	2202
	MSL5972	10/11/04	1135
	MSL5972	10/12/04	0936

SDG	GC/MS INSTRUMENT	DATE	TIME
	MSL5972	10/13/04	0837
SDN012	MSP5973	09/09/04	1720
	MSL5972	09/19/04	2202
	MSP5073	10/15/04	2202
	MSL5972	10/17/04	1312
	MSL5972	10/18/04	0933
	MSL5972	10/21/04	1059
SDN013	MSP5973	09/09/04	1720
	MSL5972	09/19/04	2202
	MSM5972	10/13/04	1401
	MSP5073	10/15/04	2202
	MSL5972	10/19/04	0904
	MSL5972	10/19/04	1905
	MSL5972	10/20/04	1002
	MSM5972	10/25/04	0935
SDN014	MSM5972	10/13/04	1401
	MSM5972	10/18/04	0856
	MSM5972	10/19/04	1153
	MSO5973	10/18/04	1233
	MSO5973	10/20/04	1451
SDN015	MSM5972	10/13/04	1401
	MSM5972	10/20/04	0933
	MSM5972	10/21/04	0936
	MSP5973	09/09/04	1720
	MSP5973	10/19/04	0812
SDN016	MSM5972	10/13/04	1401
	MSM5972	10/19/04	1153
	MSM5972	10/20/04	0933
	MSO5973	10/18/04	1233

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SDG	GC/MS INSTRUMENT	DATE	TIME
	MSO5973	10/20/04	1451
SDN017	MSL5972	10/19/04	0904
	MSL5972	10/20/04	1936
	MSL5972	10/21/04	1059
	MSP5973	09/09/04	1720
	MSP5973	10/22/04	0758
SDN018	MSM5972	10/13/04	1401
	MSM5972	10/21/04	0936
	MSM5972	10/22/04	0925
	MSP5973	09/09/04	1720
	MSP5973	10/25/04	0755
SDN019	MSP5973	09/09/04	1720
	MSP5973	10/27/04	0806
SDN020	MSO5973	11/04/04	0904
	MSO5973	11/05/04	0745
SDN022	MSO5973	10/28/04	0849
	MSO5973	11/03/04	0905

None of the volatile data in this report were qualified as estimated or rejected as unusable due to noncompliance instrument tuning.

2.3 Initial Calibration

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels as appropriate for these samples. Each calibration standard contained test compounds, surrogates, and internal standards.

The following initial calibrations were performed on the GC/MS instruments used for volatile analysis for this data set:

SDG	GC/MS INST ID	DATE	TIME	ASSOCIATED SAMPLES
SDN001	MSM5972	04/16/04	1148	All samples in this SDG
SDN002	MSM5972	09/17/04	1609	All samples in this SDG
SDN003	MSM5972	09/17/04	1609	All samples in this SDG
SDN004	MSM5972	09/17/04	1609	All samples in this SDG
SDN005	MSP5973	09/09/04	1748	S448772-17, 18
	MSL5972	09/28/04	0802	S448772-1-13
SDN006	MSM5972	09/17/04	1609	All samples in this SDG
SDN007	MSM5972	09/17/04	1609	All samples in this SDG
SDN008	MSM5972	09/17/04	1609	All samples in this SDG
SDN009	MSM5972	09/17/04	1609	All samples in this SDG
SDN010	MSL5972	09/19/04	2339	All samples in this SDG
SDN011	MSL5972	09/19/04	2339	All samples in this SDG
SDN012	MSP5973	09/09/04	1748	S449560-1-12
	MSL5972	09/19/04	2339	S449560-16, 17
SDN013	MSP5973	09/09/04	1748	S449682-17, 18
	MSL5972	09/19/04	2339	S449682-1-12, 2DL
	MSM5972	10/13/04	1455	S449682-1RE, 9RE
SDN014	MSM5972	10/13/04	1455	S449733-1-13, 13DL
	MSO5973	10/18/04	1643	S449733-17
SDN015	MSM5972	10/13/04	1455	S449757-1-8
	MSP5973	09/09/04	1748	S44757-12, 13
SDN016	MSM5972	10/13/04	1455	S449758-1-13
	MSO5973	10/18/04	1643	S449758-17
SDN017	MSL5972	09/19/04	2339	S449807-1-14
	MSP5973	09/09/04	1748	S449807-18
SDN018	MSM5972	10/13/04	1455	S449865-1-13
	MSP5973	09/09/04	1748	S449865-16, 18

SDG	GC/MS INST ID	DATE	TIME	ASSOCIATED SAMPLES
SDN019	MSP5973	09/09/04	1748	S449920-1
SDN020	MSO5973	11/04/04	0957	S450452-01
SDN022	MSO5973	10/28/04	0947	S450530-1

The results of the data validation procedure for the initial calibrations for 8260 compounds are summarized as follows.

GC/MS Instrument ID MSM5972 – 04/16/04 - 1148

The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this initial calibration.

All percent relative standard deviations (%RSD) for Calibration Check Compounds (CCC) were less than or equal to 30 percent. None of the volatile data in this report were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MSM5972 – 09/17/04 - 1609

The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this initial calibration.

All percent relative standard deviations (%RSD) for Calibration Check Compounds (CCC) were less than or equal to 30 percent. None of the volatile data in this report were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MSP5973 – 09/09/04 - 1748

The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this initial calibration.

All percent relative standard deviations (%RSD) for Calibration Check Compounds (CCC) were less than or equal to 30 percent. None of the volatile data in this report were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MSL5972 – 09/28/04 - 0802

The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this initial calibration.

All percent relative standard deviations (%RSD) for Calibration Check Compounds (CCC) were less than or equal to 30 percent. None of the volatile data in this report were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MSL5972 – 09/19/04 - 2339

The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1

Compound	RRF Control Limit
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this initial calibration.

All percent relative standard deviations (%RSD) for Calibration Check Compounds (CCC) were less than or equal to 30 percent. None of the volatile data in this report were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MSM5972 – 10/13/04 - 1455

The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this initial calibration.

All percent relative standard deviations (%RSD) for Calibration Check Compounds (CCC) were less than or equal to 30 percent. None of the volatile data in this report were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MSO5973 – 10/18/04 - 1643

The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this initial calibration.

All percent relative standard deviations (%RSD) for Calibration Check Compounds (CCC) were less than or equal to 30 percent. None of the volatile data in this report were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MSO5973 – 11/04/04 - 0957

The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3

Compound	RRF Control Limit
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this initial calibration.

All percent relative standard deviations (%RSD) for Calibration Check Compounds (CCC) were less than or equal to 30 percent. None of the volatile data in this report were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MSO5973 – 10/28/04 - 0947

The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this initial calibration.

All percent relative standard deviations (%RSD) for Calibration Check Compounds (CCC) were less than or equal to 30 percent. None of the volatile data in this report were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

2.4 Continuing Calibration

Each GC/MS employed for samples or associated quality control samples was calibrated for each 12-hour shift in which samples or associated quality control samples were analyzed. Each calibration standard was performed at one concentration level with a standard that contained all 8260 compounds, surrogates and internal standards. The following 8260 continuing calibrations were performed on the GC/MS instruments used for volatile analysis:

SDG	GC/MS INSTRUMENT ID	DATE	TIME	ASSOCIATED SAMPLES
SDN001	MSM5972	06/01/04	0955	All samples in this SDG
SDN002	MSM5972	09/19/04	1913	S448518-1, 4-12
	MSM5972	09/21/04	0934	S448518-2, 3
SDN003	MSM5972	09/24/04	0927	S448553-1, 2, 6, 7
	MSM5972	09/24/04	1917	S448553-4, 5, 13, 16-18
	MSM5972	09/25/04	1053	S448553-3, 8-12
SDN004	MSM5972	09/25/04	1053	S448640-1-9, 3DL, 4DL, 5DL
	MSM5972	09/27/04	1122	S448640-1DL, 2DL, 10-13
SDN005	MSP5973	09/28/04	0827	S448772-17, 18
	MSL5972	09/28/04	0954	S448772-1-5
	MSL5972	09/28/04	2047	S448772-6-13
SDN006	MSM5972	10/01/04	0934	S449066-1-6, 8, 10-12
	MSM5972	10/04/04	1009	S449066-1DL, 2DL, 5DL, 6DL, 7, 9, 10DL, 15, 16
SDN007	MSM5972	10/05/04	1016	S449132-6, 7, 18
	MSM5972	10/06/04	0956	S449132-1, 3, 4, 8
	MSM5972	10/07/04	1127	S449132-2, 5, 9-14
SDN008	MSM5972	10/08/04	0942	S449161-1-13, 17, 18
SDN009	MSM5972	10/07/04	1127	S449183-1-8
	MSM5972	10/08/04	0942	S449183-9-12, 16, 17

SDG	GC/MS INSTRUMENT ID	DATE	TIME	ASSOCIATED SAMPLES
SDN010	MSL5972	10/08/04	2019	S449222-1, 4-12
	MSL5972	10/10/04	1838	S449222-2, 3, 13
SDN011	MSL5972	10/11/04	1206	S449283-3-5, 7, 8, S449386-1-3
	MSL5972	10/12/04	1003	S449283-36, 9-13, 17, 18, S449386-5, 6
	MSL5972	10/13/04	0905	S449283-1, 2, 6RE, 10RE, 11RE, 12RE
SDN012	MSP5973	10/15/04	2252	S449560-16, 17
	MSL5972	10/17/04	1349	S449560-3-6, 8-11
	MSL5972	10/18/04	1000	S449560-1, 2, 7, 12, 4DL, 5DL, 6DL, 8DL, 9DL, 10DL
	MSL5972	10/21/04	1126	S449560-4DLRE, 5DLRE, 6DLRE, 8DLRE, 10DLRE
SDN013	MSP5973	10/15/04	2252	S449682-17, 18
	MSL5972	10/19/04	0931	S449682-2, 10, 11
	MSL5972	10/19/04	1935	S449682-2DL, 8
	MSL5972	10/20/04	1029	S449682-1, 3-7, 9, 12, 13
	MSM5972	10/25/04	1001	S449682-1RE, 9RE
SDN014	MSM5972	10/18/04	1016	S449733-1-13
	MSM5972	10/19/04	1235	S449733-13DL
	MSO5973	10/20/04	1602	S449733-17
SDN015	MSM5972	10/20/04	0958	S449757-1-3, 6
	MSM5972	10/21/04	1000	S449757-4, 5, 7, 8
	MSP5973	10/19/04	0837	S449757-12, 13
SDN016	MSM5972	10/19/04	1235	S449758-1, 3-13
	MSM5972	10/20/04	0958	S449758-2
	MSO5973	10/20/04	1602	S449758-17
SDN017	MSL5972	10/20/04	2003	S449807-1
	MSL5972	10/21/04	1126	S449807-2-15
	MSP5973	10/22/04	1238	S44807-18

SDG	GC/MS INSTRUMENT ID	DATE	TIME	ASSOCIATED SAMPLES
SDN018	MSM5972	10/21/04	1000	S449865-3, 5-8
	MSM5972	10/22/04	0953	S449865-1, 4, 9-12, 8DL, 8DLRE
	MSP5973	10/25/04	0844	S449865-16, 18
SDN019	MSP5973	10/27/04	0945	S449920-1
SDN020	MSO5973	11/05/04	0812	S450452-1
SDN022	MSO5973	11/03/04	0934	S450530-1

The results of the data validation procedure for the continuing calibrations are summarized as follows.

GC/MS Instrument ID MSM5972 – 06/01/04 - 0955

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.

All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSM5972 – 09/19/04 - 1913

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.

All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSM5972 – 09/21/04 - 0934

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1

Compound	RRF Control Limit
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.

All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSM5972 – 09/24/04 - 0927

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.

All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSM5972 –09/24/04 - 1917

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.

All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSM5972 –09/25/04 - 1053

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1

Compound	RRF Control Limit
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.

All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSM5972 – 09/27/04 - 1122

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.

All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSP5973 – 09/28/04 - 0827

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.

All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSL5972 – 09/28/04 – 0954

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1

Compound	RRF Control Limit
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.

All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSL5972 – 09/28/04 - 2047

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.

All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSM5972 – 10/01/04 - 0934

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.

All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSM5972 – 10/04/04 - 1009

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1

Compound	RRF Control Limit
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.

All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSM5972 – 10/05/04 - 1016

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.

All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSM5972 – 10/06/04 - 0956

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.

All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSM5972 – 10/07/04 - 1127

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1

Compound	RRF Control Limit
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.

All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSM5972 – 10/08/04 - 0942

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.

All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSL5972 – 10/08/04 - 2019

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.

All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSL5972 – 10/10/04 - 1838

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1

Compound	RRF Control Limit
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.

All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSL5972 – 10/11/04 - 1206

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.

All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSL5972 – 10/12/04 - 1003

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.

All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSL5972 – 10/13/04 - 0905

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1

Compound	RRF Control Limit
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.

All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSP5973 – 10/15/04 - 2252

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.

All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSL5972 – 10/17/04 - 1349

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.

All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSL5972 – 10/18/04 - 1000

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1

Compound	RRF Control Limit
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSL5972 – 10/21/04 - 1126

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSL5972 – 10/19/04 - 0931

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSL5972 – 10/19/04 - 1935

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSL5972 – 10/20/04 - 1029

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration. All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSM5972 – 10/25/04 - 1001

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSM5972 – 10/18/04 - 1016

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration. All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSM5972 – 10/19/04 - 1235

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1

Compound	RRF Control Limit
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration. All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSO5973 – 10/20/04 - 1602

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration. All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSM5972 – 10/20/04 - 0958

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration. All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSM5972 – 10/21/04 - 1000

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

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All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration. All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSP5973 – 10/19/04 - 0837

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration. All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSL5972 – 10/20/04 - 2003

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1

Compound	RRF Control Limit
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration. All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSL5972 – 10/21/04 - 1126

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration. All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSP5973 – 10/22/04 - 1238

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration. All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSM5972 - 10/22/04 - 0953

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration. All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MST5972 – 10/25/04 - 0844

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration. All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSP5973 – 10/27/04 - 0945

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1

Compound	RRF Control Limit
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration. All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSO5973 – 11/05/04 - 0812

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration. All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSO5973 – 11/03/04 - 0934

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration. All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

2.5 Blanks

The following blanks were associated with the volatile analyses in this report:

SDG	BLANK ID	GC/MS INST ID	DATE	TIME	ASSOCIATED SAMPLES
SDN001	SDN001-1	MSM5972	06/01/04	1242	All samples in this SDG
SDN002	SDN002-1	MSM5972	09/19/04	2043	S445818-4-12
	SDN002-2	MSM5972	09/19/04	2023	S445818-1
	SDN002-19	MSM5972	09/21/04	1147	S445818-3
	SDN002-20	MSM5972	09/21/04	1207	S445818-2
SDN003	SDN003-1	MSM5972	09/24/04	2153	S448553-16-18
	SDN003-2	MSM5972	09/24/04	1205	S448553-1, 2, 6, 7
	SDN003-32	MSM5972	09/24/04	2132	S448553-4, 5, 13
	SDN003-35	MSM5972	09/25/04	1248	S4485553-3, 8-12

SDG	BLANK ID	GC/MS INST ID	DATE	TIME	ASSOCIATED SAMPLES
SDN003	A1-02 RB (09/11/04)	MSM5972	09/24/04	2237	S448553-1-7
	A1-02 RB (09/13/04)	MSM5972	09/24/04	2258	S448553-8-13
	Trip Blank	MSM5972	09/24/04	2318	All samples in this SDG
SDN004	SDN004-1	MSM5972	09/25/04	1227	S448640-1-5
	SDN004-2	MSM5972	09/25/04	1248	S448640-3DL, 4DL, 5DL, 6-9
	SDN004-26	MSM5972	09/27/04	1235	S448640-10-13
	SDN004-27	MSM5972	09/27/04	1256	S448640-1DL, 2DL
SDN005	SDN005-1	MSL5972	09/28/04	1154	S448772-1-5
	SDN005-26	MSL5972	09/28/04	1007	S448772-17, 18
	SDN005-32	MSL5972	09/28/04	2251	S448772-6-13
	A1-11 RB	MSP5973	09/28/04	2043	S448772-1-13
	A1-16 RB	MSP5973	09/28/04	2105	S448640-1-13
SDN006	SDN006-1	MSM5972	10/04/04	1328	S449066-15, 16
	SDN006-2	MSM5972	10/01/04	1317	S449066-1-6, 8, 10-12
	SDN006-25	MSM5972	10/04/04	1304	S449066-1DL. 2DL. 5DL, 6DL, 7, 9, 10DL
	A1-08 RB	MSM5972	10/04/04	1426	All samples in this SDG
	Trip Blank	MSM5972	10/04/04	1447	All samples in this SDG
SDN007	SDN007-1	MSM5972	10/05/04	1227	S449132-18
	SDN007-2	MSM5972	10/05/04	1206	S449132-6, 7
	SDN00732	MSM5972	10/07/04	1301	S449132-9-14
	SDN00735	MSM5972	10/06/04	1233	S449132-1, 3, 4, 8
	SDN00738	MSM5972	10/07/04	1325	S449132-2, 5, 9DL
	A1-18 RB	MSM5972	10/05/04	1227	All samples in this SDG
SDN008	SDN008-1	MSM5972	10/08/04	1139	S449161-1, 3-12, 17, 18
	SDN008-2	MSM5972	10/08/04	1109	S449161-2, 13
	A1-07 RB	MSM5972	10/08/04	1417	All samples in this SDG
	Trip Blank	MSM5972	10/08/04	1439	All samples in this SDG
SDN009	SDN009-1	MSM5972	10/07/04	1301	S449183-3-8
	SDN001-2	MSM5972	10/07/04	1325	S449183-1, 2
	SDN009-32	MSM5972	10/08/04	1139	S449183-9-12, 16. 17
	A1-04 RB	MSM5972	10/08/04	1212	All samples in this SDG
	Trip Blank	MSM5972	10/08/04	1232	All samples in this SDG
SDN010	SDN010-1	MSL5972	10/08/04	2156	S449222-1, 4-12, 18
	SDN010-32	MSL5972	10/10/04	2134	S449222-2, 3, 13
	A-10 RB	MSL5972	10/08/04	2236	All samples in this SDG
	Trip Blank	MSL5972	10/08/04	2302	All samples in this SDG
SDN011	SDN011-1	MSL5972	10/11/04	1352	S449386-1-3
	SDN011-2	MSL5972	10/11/04	1609	S449283-3-5, 7, 8
	SDN011-32	MSL5972	10/12/04	1240	S449283-17, 18, S449386-5, 6

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SDG	BLANK ID	GC/MS INST ID	DATE	TIME	ASSOCIATED SAMPLES
SDN011	SDN011-35	MSL5972	10/13/04	1141	S449283-1, 2
	SDN011-38	MSL5972	10/12/04	1214	S449283-6, 9-13
	SDN011-41	MSK5972	10/13/04	1115	S449283-6RE, 10RE, 11RE, 12RE
	A1-09 RB	MSL5972	10/12/04	1306	S449283-01-13
	Trip Blank	MSL5972	10/12/04	1332	S449283-01-13
	A1-01 RB	MSL5972	10/12/04	1358	S449386-01-03
	Trip Blank	MSL5972	10/12/04	1424	S449386-01-03
SDN012	SDN012-1	MSL5972	10/17/04	1628	S449560-3-6, 8-11
	SDN012-2	MSL5972	10/18/04	1212	S449560-7, 12, 4DL, 5DL, 6DL, 8DL, 9DL, 10DL
	SDN012-25	MSL5972	10/18/04	1238	S449560-1, 2
	SDN012-28	MSL5972	10/21/04	1337	S449560-4DLRE, 5DLRE, 6DLRE, 8DLRE, 10DLRE
	A1-12 RB	MSP5973	10/16/04	0121	All samples in this SDG
	Trip Blank	MSP5973	10/16/04	0146	All samples in this SDG
SDN013	SDN013-1	MSL5972	10/19/04	1305	S449682-10, 11
	SDN013-2	MSL5972	10/19/04	1239	S449682-2
	SDN013-43	MSL5972	10/19/04	2241	S449682-2DL, 8
`	SDN013-44	MSL5972	10/20/04	1242	S449682-1, 3-7, 9, 1, 2, 13
	SDN013-51	MSM5972	10/25/04	1144	S449682-1RE, 9RE
	A1-6 RB	MSP5973	10/16/04	0211	All samples in this SDG
	Trip Blank	MSP5973	10/16/04	0235	All samples in this SDG
SDN014	SDN014-1	MSM5972	10/18/04	1058	S449733-1-13
	SDN014-2	MSM5972	10/19/04	1351	S449733-13DL
	A1-1 RB	MSO5973	10/20/04	1814	All samples in this SDG
SDN015	SDN015-1	MSM5972	10/21/04	1143	S449757-4, 5, 7, 8
	SDN015-2	MSM5972	10/20/04	1147	S449757-1-3, 6
	A1-13 RB	MSP5973	10/19/04	1048	All samples in this SDG
	Trip Blank	MSP5973	10/19/04	1113	All samples in this SDG
SDN016	SDN016-1	MSM5972	10/19/04	1411	S449758-1, 3-13
	SDN016-32	MSM5972	10/20/04	1735	S449758-2
	A1-5 RB	MS05973	10/20/04	1840	All samples in this SDG
SDN017	SDN017-2	MSL5972	10/20/04	2221	S449807-1
	SDN017-32	MSL5972	10/21/04	1337	S449807-2-14
	Trip blank	MSP5973	10/22/04	1029	All samples in this SDG
SDN018	SDN018-1	MST5972	10/21/04	1143	S449865-3, 5, 6, 7, 8
	SDN018-2	MST5972	10/22/04	1116	S449865-8DL, 8DLRE
	SDN018-32	MST5972	10/22/04	1137	S449865-1, 2, 4, 9-12
	A1-14 RB	MSP5973	10/25/04	1758	All samples in this SDG
	Trip Blank	MSP5973	10/25/04	1823	All samples in this SDG
SDN019	SDN019-1	MSP5973	10/27/04	1124	S449920-1
SDN020	SDN020-2	MSO5973	11/05/04	1035	S450452-1
SDN022	50530	MSO5973	11/03/04	1241	S450530-1

The following target volatile compounds were reported in the associated blanks:

SDG	BLANK ID	COMPOUND	CONC.	ASSOC. SAMPLES QUALIFIED AS NON-DETECT
SDN004	A1-16 RB	Acetone	0.016 mg/l	S448640-1, 2, 4, 5, 10-12
SDN005	A1-11 RB	Toluene	0.00054 mg/l	S448772-2
SDN010	A-10 RB	Acetone	0.011J	S449222-1, 4, 5, 6, 8, 10-13
SDN014	A1-1RB	Carbon disulfide	0.00077 mg/l	S449733-4, 5
SDN018	A1-14 RB	Carbon disulfide	0.00073 mg/l	S449865-6-10, 12
		Styrene	0.00037 mg/l	None

Any volatile compounds detected in a sample (other than a common laboratory contaminant), that was also detected in any associated blank were qualified as not detected with a "U" qualifier if the sample concentration was less than five times the blank concentration. For common laboratory contaminants (methylene chloride, acetone, 2-butanone, cyclohexane), the results were qualified by elevating the quantitation limit to the concentration found in the sample with a "U" qualifier when the sample concentration is less than 10 times the blank concentration. The quantitation limit was elevated to the concentration in the sample. The compounds and samples listed above were qualified as NOT DETECTED based on the guidance defined here.

2.6 Surrogate Samples

All volatile surrogate percent recoveries (%R) for the samples covered by this report were within the specified quality control limits with the following exceptions:

SDG	LAB SAMPLE ID	SURROGATE	%R	CONTROL LIMITS
SDN004	S448640-1	p-Bromofluorobenzene	122	68-121
SDN006	S449066-1	p-Bromofluorobenzene	124	68-121

SDG	LAB SAMPLE ID	SURROGATE	%R	CONTROL LIMITS
SDN060	S449066-10	Dibromofluoromethane	128	66-127
		p-Bromofluorobenzene	123	68-121
SDN011	S449283-6	Dibromofluoromethane	160	66-127
		Toluene-d8	143	65-128
		p-Bromofluorobenzene	167	68-121
	S449283-10	Dibromofluoromethane	254	66-127
		Toluene-d8	217	65-128
		p-Bromofluorobenzene	267	68-121
	S449283-11	Dibromofluoromethane	178	66-127
		Toluene-d8	156	65-128
		p-Bromofluorobenzene	185	68-121
	S449283-12	Dibromofluoromethane	176	66-127
		Toluene-d8	152	65-128
		p-Bromofluorobenzene	176	68-121
	S449283-06RE	Dibromofluoromethane	177	66-127
		Toluene-d8	167	65-128
		p-Bromofluorobenzene	183	68-121
	S449283-10RE	Dibromofluoromethane	229	66-127
		Toluene-d8	204	65-128
		p-Bromofluorobenzene	292	68-121
	S449283-11RE	Dibromofluoromethane	159	66-127
		Toluene-d8	141	65-128
		p-Bromofluorobenzene	174	68-121
	S449283-12RE	Dibromofluoromethane	176	66-127
		Toluene-d8	157	65-128
		p-Bromofluorobenzene	176	68-121
SDN012	S449560-4DL	Dibromofluoromethane	147	66-127
		Toluene-d8	135	65-128
		p-Bromofluorobenzene	141	68-121
	S449560-5DL	Dibromofluoromethane	174	66-127

SDG	LAB SAMPLE ID	SURROGATE	%R	CONTROL LIMITS
SDN012	S449560-5DL	Toluene-d8	155	65-128
		p-Bromofluorobenzene	166	68-121
	S449560-6DL	Dibromofluoromethane	197	66-127
		Toluene-d8	171	65-128
		p-Bromofluorobenzene	188	68-121
	S449560-8DL	Dibromofluoromethane	146	66-127
		Toluene-d8	134	65-128
		p-Bromofluorobenzene	143	68-121
	S449560-10DL	Dibromofluoromethane	173	66-127
		Toluene-d8	154	65-128
		p-Bromofluorobenzene	178	68-121
	S449560-4DLRE	Dibromofluoromethane	147	66-127
		Toluene-d8	132	65-128
		p-Bromofluorobenzene	126	68-121
	S449560-5DLRE	Dibromofluoromethane	157	66-127
		Toluene-d8	137	65-128
		p-Bromofluorobenzene	143	68-121
	S449560-6DLRE	Dibromofluoromethane	140	66-127
		p-Bromofluorobenzene	128	68-121
	S449560-8DLRE	Dibromofluoromethane	159	66-127
		Toluene-d8	138	65-128
		p-Bromofluorobenzene	151	68-121
	S449560-10DLRE	Dibromofluoromethane	159	66-127
		Toluene-d8	138	65-128
		p-Bromofluorobenzene	151	68-121
SDN017	S449807-8	Dibromofluoromethane	132	66-127
SDN018	S449865-8DL	Dibromofluoromethane	171	66-127
		Toluene-d8	157	65-128
		p-Bromofluorobenzene	168	68-121
	S449865-8DLRE	Dibromofluoromethane	171	66-127

SDG	LAB SAMPLE ID	SURROGATE	%R	CONTROL LIMITS
SDN018	S449560-5DL	Toluene-d8	157	65-128
		p-Bromofluorobenzene	182	68-121

Positive volatile results were qualified as estimated with a "J" qualifier based on low or high surrogate recoveries. Volatile detection limits for non-detect compounds were qualified as estimated with a "UJ" qualifier based on low surrogate recoveries.

2.7 Matrix Spike/ Matrix Spike Duplicate

Although some project MS/MSD percent recoveries and percent relative percent differences (RPDs) were not within specified quality control limits, none of the samples were qualified based on MS/MSD percent recoveries or relative percent differences. The Functional Guidelines state that data should never be qualified based on matrix spike data alone.

2.8 Laboratory Control Samples

All of the LCS percent recoveries and relative percent differences (RPDs) were within specified quality control limits with the following exceptions:

SDG	LCS ID	COMPOUND	LCS % R	CONT. LIMITS	ASSOC SAMPLES
SDN001	SND001-2	4-Methyl-2-pentanone	42	47-160	All samples in this SDG
		2-Hexanone	44	46-163	All samples in this SDG
SDN002	SDN002-1	Chloroethane	280	46-152	S445818-4-12
	SDN002-20	1,1-Dichloroethane	168	34-166	S445818-2
SDN003	SDN003-1	Chloroethane	260	46-152	S448553-16-18
SDN004	SDN004-27	Dibromochloromethane	68	70-124	S448640-1DL, 2DL, 10-13

SDG	LCS ID	COMPOUND	LCS % R	CONT. LIMITS	ASSOC SAMPLES
SDN006	SDN006-2	1,1-Dichloroethane	180	34-166	S449066-1-6, 8, 10-12
SDN007	SDN007-32	trans-1,2-Dichloroethene	164	23-159	S449132-1, 3, 4, 8
		1,1-Dichloroethane	184	34-166	S449132-1, 3, 4, 8
SDN008	SDN008-1	1,1-Dichloroethane	176	34-166	S449161-1, 3-12, 17, 18
	SDN008-2	1,1-Dichloroethane	180	34-166	S449161-2S4491, 13
SDN009	SDN009-32	1,1-Dichloroethane	176	34-166	S449183-9-12, 16, 17
SDN010	SDN010-1	1,1,1-Trichloroethane	68	70-123	S449222-1, 4-12, 18
		Chloroethane	32	46-152	S449222-1, 4-12, 18
	SDN010-32	1,1,1-Trichloroethane	68	70-123	S449222-2, 3, 13
SDN011	SDN011-1	Chloroethane	20	46-152	S449386-1-3
		1,1,1-Trichlorethane	66	70-123	S449386-1-3
	SDN011-2	Chloroethane	21	46-152	S449283-3-5, 7, 8
		1,1,1-Trichlorethane	68	70-123	S449283-3-5, 7, 8
	SDN011-32	Chloroethane	22	46-152	S449283-17, 18, S449386-5, 6
	SDN011-38	Chloroethane	22	46-152	S449283-6, 9-13
		1,1,1-Trichlorethane	68	70-123	S449283-6, 9-13
	SDN011-35	Chloroethane	24	46-152	S449283-1, 2
	SDN011-41	Chloroethane	22	46-152	S449283-6RE, 10RE, 11RE, 12RE
SDN012	SDN012-1	Chloroethane	24	46-152	S449560-3-6, 8-11
	SDN012-2	Chloroethane	21	46-152	S449560-7, 12, 4DL, 5DL, 6DL, 8DL, 9DL, 10DL
	SDN012-25	Chloroethane	20	46-152	S449560-1, 2
		1,1,1-Trichlorethane	68	70-123	S449560-1, 2
	SDN012-28	Chloroethane	19	46-152	S449560-4DLRE, 5DLRE, 6DLRE, 8DLRE, 10DLRE
		1,1,1-Trichlorethane	68	70-123	S449560-4DLRE, 5DLRE, 6DLRE, 8DLRE, 10DLRE

SDG	LCS ID	COMPOUND	LCS % R	CONT. LIMITS	ASSOC SAMPLES
SDN013	SDN013-1	Chloroethane	22	46-152	S449682-10, 11
		1,1,1-Trichlorethane	68	70-123	S449682-10, 11
	SDN013-2	Chloroethane	22	46-152	S449682-2
	SDN013-43	Chloroethane	22	46-152	S449682-2DL, 8
	SDN013-44	Chloroethane	22	46-152	S449682-1, 3-7, 9, 12, 13
SDN014	SDN014-1	Chloroethane	44	46-152	S449733-1-13
	SDN014-2	Chloroethane	24	46-152	S449733-13DL
		Dibromochloromethane	128	70-124	S449733-13DL
SDN015	SDN015-2	Chloroethane	36	46-152	S449757-1, 2, 3, 6
SDN017	SDN017-2	Chloroethane	17	46-152	S449807-1
		1,1,1-Trichlorethane	68	70-123	S449807-1
	SDN017-32	Chloroethane	19	46-152	S449807-2-14
		1,1,1-Trichlorethane	68	70-123	S449807-2-14
SDN018	SDN018-2	Chloroethane	39	46-152	S449865-8DL, 8DLRE

Positive results for associated samples and compounds listed above were qualified as estimated with a "J" qualifier when the LCS recovery is low or high recoveries. Detection limits for non-detects were qualified as estimated with a "UJ" qualifier when the LCS recovery is low.

2.9 Internal Standards

All internal standard area counts were less than a factor of + OR- 50% from the associated calibration standard with the following exceptions:

SDG	SAMPLE ID	INTERNAL STANDARD	RESPONSE	ACCEPTABLE RANGE
SDN004	S448640-1	Chlorobenzene-d5	73197	88315-353260
	S448640-3	1,2-Dichloroethane-d4	45479	68843-275372

SDG	SAMPLE ID	INTERNAL STANDARD	RESPONSE	ACCEPTABLE RANGE
SDN004	S448640-3	1,4-Difluorobenzene	66014	165665-662660
		Chlorobenzene-d5	27548	88315-353260
SDN014	S449733-13	Chlorobenzene-d5	84455	98820-395280

For samples listed above, where both the original and reanalyzed results were out of control limits, the results for the original samples were qualified as estimated with a "J" qualifier for detected results and a "UJ" qualifier to denote an estimated detection limit for non-detected results based on low internal standard recoveries for the compounds quantitated with the out of control limit internal standards. The data user should note that the actual concentration of the volatiles present in the samples might be higher than those reported for positive results and may be higher than reporting limits for non-detected results.

The internal standard retention times for the selected samples did not vary more than + or- 30 seconds from the retention time of the associated calibration standard.

2.10 Target Compound Identification

All target compound identifications were acceptable with regard to the supporting data.

2.11 Target Compound Quantitation

All target compound quantitations were acceptable with regard to the supporting data.

2.12 Overall Assessment of Data

All data validation qualifiers applied by ECS for the volatile data are included in Appendix A. No significant problems other than those discussed were encountered during this data validation process.

3.0 DATA REVIEW OF SEMIVOLATILE ORGANIC COMPOUNDS

The following samples were analyzed for semivolatiles in this data validation report:

SDG	LAB SAMPLE ID	FIELD SAMPLE ID	MATRIX	DATE COLLECTED
SDN001	S444433-1	EE-11 NAPL	OIL	05/19/04
SDN002	S448518-1	A1-03 8.5-11	SOIL	09/10/04
	S448518-2	A1-03 11-13.5	SOIL	09/10/04
	S448518-3	A1-03 22.5-25	SOIL	09/10/04
	S448518-4	A1-03 32.5-35	SOIL	09/10/04
	S448518-5	A1-03 47.5-50	SOIL	09/10/04
	S448518-6	A1-03 57.5-60	SOIL	09/10/04
	S448518-7	A1-03 60-62.5	SOIL	09/10/04
	S448518-8	A1-03 72.5-75	SOIL	09/10/04
	S448518-9	A1-03 72.5-75D	SOIL	09/10/04
	S448518-10	A1-03 82.5-85	SOIL	09/10/04
	S448518-11	A1-03 92.5-95	SOIL	09/10/04
	S448518-12	A1-03 102.5-105	SOIL	09/10/04
SDN003	S448553-1	A1-02 7.5-10	SOIL	09/11/04
	S448553-2	A1-02 12.5-15	SOIL	09/11/04
	S448553-3	A1-02 22.5-25	SOIL	09/11/04
	S448553-4	A1-02 32.5-35	SOIL	09/11/04
	S448553-5	A1-02 47.5-50	SOIL	09/11/04
	S448553-6	A1-02 50-52.5	SOIL	09/11/04
	S448553-7	A1-02 62.5-65	SOIL	09/11/04
	S448553-8	A1-02 75-77.5	SOIL	09/12/04
	S448553-9	A1-02 75-77.5 DUP	SOIL	09/12/04
	S448553-10	A1-02 82.5-85	SOIL	09/12/04
	S448553-11	A1-02 82.5-85 DUP	SOIL	09/12/04
	S448553-12	A1-02 90-92.5	SOIL	09/12/04
	S448553-13	A1-02 105-107	SOIL	09/12/04
	S448553-16	A1-02 RB(09/11/04)	AQUEOUS	09/11/04
	S448553-17	A1-02 RB(09/13/04)	AQUEOUS	09/13/04
SDN004	S448640-1	A1-16 5-7.5	SOIL	09/13/04
	S448640-2	A1-16 17.5-20	SOIL	09/13/04
	S448640-3	A1-16 27.5-30	SOIL	09/13/04
	S448640-4	A1-16 35-37.5	SOIL	09/13/04
	S448640-5	A1-16 42.5-45	SOIL	09/13/04
	S448640-6	A1-16 50-52.5	SOIL	09/13/04

SDG	LAB SAMPLE ID	FIELD SAMPLE ID	MATRIX	DATE COLLECTED
	S448640-7	A1-16 50-52.5 DUP	SOIL	09/13/04
	S448640-8	A1-16 60-62.5	SOIL	09/13/04
SDN004	S448640-9	A1-16 60-62.5 DUP	SOIL	09/13/04
	S448640-10	A1-16 75-77.5	SOIL	09/13/04
	S448640-11	A1-16 87.5-90	SOIL	09/13/04
	S448640-12	A1-16 92.5-95	SOIL	09/13/04
	S448640-13	A1-16 105-107.5	SOIL	09/13/04
SDN005	S448772-1	A1-11 5-7.5	SOIL	09/14/04
	S448772-2	A1-11 10-12.5	SOIL	09/14/04
	S448772-3	A1-11 20-22.5	SOIL	09/14/04
	S448772-4	A1-11 30-32.5	SOIL	09/14/04
	S448772-5	A1-11 40-42.5	SOIL	09/15/04
	S448772-6	A1-11 40-42.5 DUP	SOIL	09/15/04
	S448772-7	A1-11 57.5-60	SOIL	09/15/04
	S448772-8	A1-11 62.5-65	SOIL	09/15/04
	S448772-9	A1-11 72.5-75	SOIL	09/15/04
	S448772-10	A1-11 72.5-75 DUP	SOIL	09/15/04
	S448772-11	A1-11 82.5-85	SOIL	09/15/04
	S448772-12	A1-11 92.5-95	SOIL	09/15/04
	S448772-13	A1-11 102.5-105	SOIL	09/15/04
	S448772-17	A1-11 RB	AQUEOUS	09/16/04
	S448772-18	A1-16 RB	AQUEOUS	09/14/04
SDN006	S449066-1	A1-08 5.0-7.5	SOIL	09/22/04
	S449066-2	A1-08 10.0-12.5	SOIL	09/22/04
	S449066-3	A1-08 22.5-25.0	SOIL	09/22/04
	S449066-4	A1-08 30.0-32.5	SOIL	09/22/04
	S449066-5	A1-08 47.5-50.0	SOIL	09/22/04
	S449066-6	A1-08 47.5-50.0 DUP	SOIL	09/22/04
	S449066-7	A1-08 57.5-60.0	SOIL	09/22/04
	S449066-8	A1-08 60.0-62.5	SOIL	09/22/04
	S449066-9	A1-08 70.0-72.5	SOIL	09/22/04
	S449066-10	A1-08 82.5-85	SOIL	09/22/04
	S449066-11	A1-08 90.09-92.5	SOIL	09/22/04
	S449066-12	A1-08 102.5-105	SOIL	09/22/04
	S449066-15	A1-08 RB	AQUEOUS	09/23/04
SDN007	S449132-1	A1-18 7.5-10	SOIL	09/24/04
	S449132-2	A1-18 7.5-10 DUP	SOIL	09/24/04
	S449132-3	A1-18 12.5-15	SOIL	09/24/04
	S449132-4	A1-18 27.5-30	SOIL	09/24/04
	S449132-5	A1-18 32.5-35	SOIL	09/24/04
	S449132-6	A1-18 40-42.5	SOIL	09/24/04
	S449132-7	A1-18 52.5-55	SOIL	09/24/04

SDG	LAB SAMPLE ID	FIELD SAMPLE ID	MATRIX	DATE COLLECTED
	S449132-8	A1-18 67.5-70	SOIL	09/24/04
	S449132-9	A1-18 72.5-75	SOIL	09/24/04
	S449132-10	A1-18 85-87.5	SOIL	09/24/04
	S449132-11	A1-18 85-87.5 DUP	SOIL	09/24/04
SDN007	S449132-12	A1-18 95-97.5	SOIL	09/24/04
	S449132-13	A1-18 105-107	SOIL	09/24/04
	S449132-14	A1-18 110-112	SOIL	09/24/04
	S449132-18	A1-18 RB	AQUEOUS	09/24/04
SDN008	S449161-1	A1-07 (0-2.5)	SOIL	09/27/04
	S449161-2	A1-07 (10.0-12.5)	SOIL	09/27/04
	S449161-3	A1-07 (35.0-37.6)	SOIL	09/27/04
	S449161-4	A1-07 (35.0-37.5 DUP)	SOIL	09/27/04
	S449161-5	A1-07 (47.5-50.0)	SOIL	09/27/04
	S449161-6	A1-07 (52.5-55.0)	SOIL	09/27/04
	S449161-7	A1-07 (67.5-70.0)	SOIL	09/27/04
	S449161-8	A1-07 (75.0-77.5)	SOIL	09/27/04
	S449161-9	A1-07 (87.5-90.0)	SOIL	09/27/04
	S449161-10	A1-07 (97.5-100.0)	SOIL	09/27/04
	S449161-11	A1-07 (100.0-102.5)	SOIL	09/27/04
	S449161-12	A1-07 (110.0-111.0)	SOIL	09/27/04
	S449161-13	A1-07 (20.0-22.5)	SOIL	09/27/04
	S449161-17	A1-07 RB	AQUEOUS	09/28/04
SDN009	S449183-1	A1-04 (7.5-10.0)	SOIL	09/25/04
	S449183-2	A1-04 (7.5-10.0) DUP	SOIL	09/25/04
	S449183-3	A1-04 (12.5-15.0)	SOIL	09/25/04
	S449183-4	A1-04 (20-22.5)	SOIL	09/25/04
	S449183-5	A1-04 (35.0-37.5)	SOIL	09/25/04
	S449183-6	A1-04 (40.0-42.5)	SOIL	09/25/04
	S449183-7	A1-04 (57.5-60.0)	SOIL	09/25/04
	S449183-8	A1-04 (67.5-70.0)	SOIL	09/25/04
	S449183-9	A1-04 (70.0-72.5)	SOIL	09/25/04
	S449183-10	A1-04 (80.0-82.5)	SOIL	09/25/04
	S449183-11	A1-04 (92.5-95.0)	SOIL	09/25/04
	S449183-12	A1-04 (105.0-107.5)	SOIL	09/25/04
	S449183-16	A1-04 RB	SOIL	09/25/04
SDN010	S449222-1	A1-10 (5.0-7.5)	SOIL	09/27/04
	S449222-2	A1-10 (20.0-22.5)	SOIL	09/27/04
	S449222-3	A1-10 (20.0-22.5) DUP	SOIL	09/27/04
	S449222-4	A1-10 (35.0-37.5)	SOIL	09/27/04
	S449222-5	A1-10 (40.0-42.5)	SOIL	09/27/04
	S449222-6	A1-10 (40.0-42.5) DUP	SOIL	09/27/04
	S449222-7	A1-10 (57.5-60.0)	SOIL	09/27/04

SDG	LAB SAMPLE ID	FIELD SAMPLE ID	MATRIX	DATE COLLECTED
	S449222-8	A1-10 (65.0-67.5)	SOIL	09/27/04
	S449222-9	A1-10 (75.0-77.5)	SOIL	09/27/04
	S449222-10	A1-10 (75.0-77.5) DUP	SOIL	09/27/04
	S449222-11	A1-10 (80.0-82.5)	SOIL	09/27/04
	S449222-12	A1-10 (90.0-92.5)	SOIL	09/27/04
	S449222-13	A1-10 (105.0-107.5)	SOIL	09/27/04
	S449222-17	A1-10 RB	AQUEOUS	09/28/04
SDN011	S449283-1	A1-09 (5.0-7.5)	SOIL	09/29/04
	S449283-2	A1-09 (17.5-20.0)	SOIL	09/29/04
	S449283-3	A1-09 (25.0-27.5)	SOIL	09/29/04
	S449283-4	A1-09 (25.0-27.5) DUP	SOIL	09/29/04
	S449283-5	A1-09 (32.5-35.0)	SOIL	09/29/04
	S449283-6	A1-09 (42.5-45.0)	SOIL	09/29/04
	S449283-7	A1-09 (57.5-60.0)	SOIL	09/29/04
	S449283-8	A1-09 (65.0-67.5)	SOIL	09/29/04
	S449283-9	A1-09 (65.0-67.5) DUP	SOIL	09/29/04
	S449283-10	A1-09 (77.5-80.0)	SOIL	09/29/04
	S449283-11	A1-09 (82.5-85.0)	SOIL	09/29/04
	S449283-12	A1-09 (92.5-95.0)	SOIL	09/29/04
	S449283-13	A1-09 (105.0-107.5)	SOIL	09/29/04
	S449283-17	A1-09 RB	AQUEOUS	09/29/04
	S449386-1	A1-17 5.0-7.5	SOIL	09/30/04
	S449386-2	A1-17 17.5-20.0	SOIL	09/30/04
	S449386-3	A1-17 22.5-25.0	SOIL	09/30/04
	S449386-5	A1-17 RB	AQUEOUS	09/30/04
SDN012	S449560-1	A1-12 7.5-10	SOIL	10/05/04
	S449560-2	A1-12 12.5-15	SOIL	10/05/04
	S449560-3	A1-12 22.5-25	SOIL	10/05/04
	S449560-4	A1-12 37.5-40	SOIL	10/05/04
	S449560-5	A1-12 37.5-40 DUP	SOIL	10/05/04
	S449560-6	A1-12 47.5-50	SOIL	10/05/04
	S449560-7	A1-12 52.5-55	SOIL	10/05/04
	S449560-8	A1-12 62.5-65	SOIL	10/05/04
	S449560-9	A1-12 72.5-75	SOIL	10/05/04
	S449560-10	A1-12 80-82.5	SOIL	10/05/04
	S449560-11	A1-12 97.5-100	SOIL	10/05/04
	S449560-12	A1-12 110-112	SOIL	10/05/04
	S449560-16	A1-12 RB	AQUEOUS	10/05/04
SDN013	S449682-1	A1-6 (2.5-5.0)	SOIL	10/06/04
	S449682-2	A1-6 (15.0-17.5)	SOIL	10/06/04
	S449682-3	A1-6 (27.5-30.0)	SOIL	10/06/04

SDG	LAB SAMPLE ID	FIELD SAMPLE ID	MATRIX	DATE COLLECTED
	S449682-4	A1-6 (30.0-32.5)	SOIL	10/06/04
	S449682-5	A1-6 (40.0-42.5)	SOIL	10/06/04
	S449682-6	A1-6 (40.0-42.5) DUP	SOIL	10/06/04
	S449682-7	A1-6 (67.5-70.0)	SOIL	10/06/04
	S449682-8	A1-6 (70.0-72.5)	SOIL	10/06/04
	S449682-9	A1-6 (85.0-87.5)	SOIL	10/06/04
	S449682-10	A1-6 (97.5-100.0)	SOIL	10/06/04
	S449682-11	A1-6 (97.5-100.0) DUP	SOIL	10/06/04
	S449682-12	A1-6 (105.0-107.5)	SOIL	10/06/04
	S449682-16	A1-6 (100.0-102.5)	SOIL	10/06/04
	S449682-17	A1-6 RB	AQUEOUS	10/07/04
SDN014	S449733-1	A1-1 (0.0-2.5)	SOIL	10/07/04
	S449733-2	A1-1 (25.0-27.5)	SOIL	10/07/04
	S449733-3	A1-1 (35.0-37.5)	SOIL	10/07/04
	S449733-4	A1-1 (40.0-42.5)	SOIL	10/07/04
	S449733-5	A1-1 (40.0-42.5) DUP	SOIL	10/07/04
	S449733-6	A1-1 (50.0-52.5)	SOIL	10/07/04
	S449733-7	A1-1 (67.5-70.0)	SOIL	10/07/04
	S449733-8	A1-1 (72.5-75.0)	SOIL	10/07/04
	S449733-9	A1-1 (82.5-85.0)	SOIL	10/07/04
	S449733-10	A1-1 (82.5-85.0) DUP	SOIL	10/07/04
	S449733-11	A1-1 (97.5-100.0)	SOIL	10/07/04
	S449733-12	A1-1 (105.0-107.5)	SOIL	10/07/04
	S449733-13	A1-1 (12.5-15.0)	SOIL	10/07/04
	S449733-17	A1-1 RB	AQUEOUS	10/07/048
SDN015	S449757-1	A1-13 (2-4)	SOIL	10/09/04
	S449757-2	A1-13 (11-13.5)	SOIL	10/09/04
	S449757-3	A1-13 (19-21.5)	SOIL	10/09/04
	S449757-4	A1-13 (36-38.5)	SOIL	10/10/04
	S449757-5	A1-13 (36-38.5)DUP	SOIL	10/10/04
	S449757-6	A1-13 (64-66.5	SOIL	10/10/04
	S449757-7	A1-13 (76.5-79)	SOIL	10/10/04
	S449757-8	A1-13 (106-108.5)	SOIL	10/10/04
	S449757-12	A1-13 RB	AQUEOUS	10/11/04
SDN016	S449758-1	A1-5 (0-2.5)	SOIL	10/08/04
	S449758-2	A1-5 (12.5-15)	SOIL	10/08/04
	S449758-3	A1-5 (25-27.5)	SOIL	10/08/04
	S449758-4	A1-5 (30-32.5)	SOIL	10/08/04
	S449758-5	A1-5 (40-42.5)	SOIL	10/08/04
	S449758-6	A1-5 (50-52.5)	SOIL	10/08/04
	S449758-7	A1-5 (65-67.5)	SOIL	10/08/04
	S449758-8	A1-5 (77.5-80)	SOIL	10/08/04

SDG	LAB SAMPLE ID	FIELD SAMPLE ID	MATRIX	DATE COLLECTED
	S449758-9	A1-5 (85-85.7)	SOIL	10/08/04
	S449758-10	A1-5 (95-97.5)	SOIL	10/08/04
	S449758-11	A1-5 (105-107.5)	SOIL	10/08/04
	S449758-12	A1-5 (50-52.5) DUP	SOIL	10/08/04
	S449758-13	A1-5 (85-87.5) DUP	SOIL	10/08/04
SDN017	S449807-1	A1-14 (2.5-5.0)	SOIL	10/11/04
	S449807-2	A1-14 (12.5-15.0)	SOIL	10/11/04
	S449807-3	A1-14 (25-27.5)	SOIL	10/11/04
	S449807-4	A1-14 (37.5-40)	SOIL	10/11/04
	S449807-5	A1-14 (45-47.5)	SOIL	10/11/04
	S449807-6	A1-14 (57.5-60.0)	SOIL	10/11/04
	S449807-7	A1-14 (60-62.5)	SOIL	10/11/04
	S449807-8	A1-14 (72.5-75.5)	SOIL	10/11/04
	S449807-9	A1-14 (85-87.5)	SOIL	10/11/04
SDN017	S449807-10	A1-14 (92.5-95.0)	SOIL	10/11/04
	S449807-11	A1-14 (102.5-105.0)	SOIL	10/11/04
	S449807-12	A1-14 (112.5-115.0)	SOIL	10/11/04
	S44980713	A1-14 (37.5-40) DUP	SOIL	10/11/04
	S449807-14	A1-14 (102.5-105.0) DUP	SOIL	10/11/04
	S449807-18	A1-14 RB	AQUEOUS	10/12/04
SDN018	S44865-1	A1-15 (7.5-10)	SOIL	10/13/04
	S44865-2	A1-15 (15-17.5)	SOIL	10/13/04
	S44865-3	A1-15 (25-27.5)	SOIL	10/13/04
	S44865-4	A1-15 (32.5-35)	SOIL	10/13/04
	S44865-5	A1-15 (32.5-35) DUP	SOIL	10/13/04
	S44865-6	A1-15 (45-47.5)	SOIL	10/13/04
	S44865-7	A1-15 (50-52.5)	SOIL	10/13/04
	S44865-8	A1-15 (60-62.5)	SOIL	10/13/04
	S44865-9	A1-15 (77.5-80)	SOIL	10/13/04
	S44865-10	A1-15 (85-87.5)	SOIL	10/13/04
	S44865-11	A1-15 (90-92.5)	SOIL	10/13/04
	S44865-12	A1-15 (105-107.5)	SOIL	10/13/04
	S44865-16	A1-15 RB	AQUEOUS	10/12/04
SDN019	S449920-1	A1-15 RB	AQUEOUS	10/14/04
SDN020	S450-452-1	BR-1 (NAPL)	OIL	10/27/04
SDN022	S450530-1	BR-G GW	AQUEOUS	10/03/04

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3.1 Holding Times

The maximum holding time from date of collection to date of extraction for semivolatiles in organic and solid samples recommended in the Functional Guidelines is 14 days. The maximum holding time from date of collection to date of extraction for semivolatiles in aqueous samples recommended in the Functional Guidelines is 7 days. The maximum holding time from date of extraction to date of analysis for semivolatile recommended in SW-846 is 40 days. All of these holding times were met for the samples in this report with the following exceptions:

SDG	SAMPLE ID	HOLDING TIME EXCEEDANCE
SDN002	S445818-3RE	EXTRACTION 7 DAYS
	S445818-4RE	EXTRACTION 7 DAYS
	S445818-5RE	EXTRACTION 7 DAYS
SDN002	S445818-6RE	EXTRACTION 7 DAYS
	S445818-7RE	EXTRACTION 7 DAYS
	S445818-8RE	EXTRACTION 7 DAYS
	S445818-10RE	EXTRACTION 7 DAYS
	S445818-11RE	EXTRACTION 7 DAYS
SDN003	S448553-4RE	EXTRACTION 7 DAYS
	S448553-5RE	EXTRACTION 7 DAYS
SDN015	S449757-5RE	EXTRACTION15 DAYS
SDN018	S449865-12RE	EXTRACTION 12 DAYS
SDN020	S450452-1RE, 1REDL	EXTRACTION 11 DAYS
SDN022	S450530-1	EXTRACTION 24 DAYS

Associated reported results were qualified as estimated with a "J" qualifier for detects and a "UJ" qualifier for non-detects.

3.2 GC/MS Instrument Performance

All of the mass calibrations for semivolatiles met the ion abundance specified by the Functional Guidelines. GC/MS tunes were conducted at the proper frequency (1 every 12 hours). Ion abundance criteria were met as follows:

SDG	GC/MS INSTR, ID	DATE	TIME
SDN001	MSK5972	05/24/04	1528
	MSK5972	06/07/04	0935
SDN002	MST5973	08/31/04	0937
	MST5973	09/26/04	1108
	MST5973	09/27/04	0949
	MST5973	10/01/04	1523
	MST5973	10/02/04	1611
	MSE5973	10/07/04	0749
SDN002	MST5973	10/08/04	0817
	MST5973	10/11/04	1021
	MST5973	10/13/04	0833
SDN003	MST5973	08/31/04	0937
	MST5973	09/27/04	0949
	MST5973	09/28/04	0858
	MST5973	10/01/04	1523
	MST5973	10/02/04	1611
	MSG5973	10/05/04	1404
	MSG5973	10/06/04	0851
SDN004	MST5973	10/01/04	1523
	MST5973	10/03/04	1459
	MST5973	10/04/04	0812
SDN005	MST5973	10/07/04	0159
	MST5973	10/07/04	0946
	MST5973	10/08/04	0817

SDG	GC/MS INSTR, ID	DATE	TIME
	MST5973	10/13/04	0833
SDN006	MSE5973	10/07/04	0749
	MSJ5971	10/07/04	1513
	MST5973	10/08/04	0817
	MSJ5971	10/09/04	1139
	MSE5973	10/12/04	1250
	MSN5973	10/11/04	1538
	MSN5973	10/13/04	0921
	MSN5973	10/14/04	1339
	MSN5973	10/15/04	0811
SDN007	MSE5973	10/07/04	0749
	MSJ5971	10/07/04	1513
	MST5973	10/08/04	0817
SDN007	MSJ5971	10/09/04	1139
	MST5973	10/13/04	0833
	MST5973	10/14/04	0951
	MST5973	10/15/04	1439
	MST5973	10/16/04	1019
	MST5973	10/22/04	0946
SDN008	MSN5973	10/11/04	1538
	MSN5973	10/13/04	0921
	MSN5973	10/13/04	2321
	MSN5973	10/14/04	1339
	MSN5973	10/15/04	0811
SDN009	MSN5973	10/11/04	1538
	MSN5973	10/13/04	0921
	MSN5973	10/17/04	2202
	MSE5972	10/18/04	1555
	MSE5973	10/20/04	1108

SDG	GC/MS INSTR, ID	DATE	TIME
SDN010	MST5973	10/08/04	0817
	MST5973	10/11/04	1021
	MSG5973	10/13/04	1317
	MSG5973	10/18/04	0815
	MST5973	10/18/04	0939
	MST5973	10/22/04	0946
	MST5973	10/23/04	1114
SDN011	MST5973	10/08/04	0817
	MSN5973	10/11/04	1538
	MST5973	10/16/04	1019
	MSE5973	10/18/04	1555
	MSE5973	10/19/04	0914
	MSE5973	10/20/04	1108
SDN011	MSE5973	10/22/04	1613
SDN012	MSE5973	10/07/04	0749
	MSG5973	10/24/04	1124
	MSE5973	10/28/04	1425
	MSG5973	11/01/04	0808
`	MSN5973	11/06/04	1018
	MSN5973	11/08/04	0931
SDN013	MSE5973	10/23/04	1029
	MSE5973	10/28/04	1425
	MSE5973	10/29/04	0853
	MSE5973	11/03/04	0811
	MST5973	11/04/04	2049
	MST5973	11/07/04	0936
SDN014	MSG5973	10/24/04	1124
	MSE5973	10/28/04	1425
	MSG5973	11/02/04	1416

SDG	GC/MS INSTR, ID	DATE	TIME
	MSG5973	11/04/04	0952
	MSN5973	11/06/04	1018
	MSN5973	11/08/04	0931
SDN015	MST5973	10/08/04	0817
	MST5973	11/02/04	1222
	MST5972	11/04/04	2049
	MST5972	11/07/04	0936
	MSE5972	11/09/04	1654
	MSE5972	11/10/04	1002
SDN016	MST5973	11/01/04	1351
	MST5973	11/04/04	2049
SDN017	MSJ5971	10/28/04	0856
	MST5973	11/04/04	2049
SDN017	MSJ5971	11/06/04	0937
	MST5973	11/09/04	1219
	MST5973	11/10/04	1242
	MST5973	11/11/04	1612
SDN018	MSE5973	11/03/04	0811
	MSE5973	11/04/04	2120
	MSE5973	11/05/04	1608
	MSE5973	11/09/04	1654
	MSE5973	11/10/04	1002
SDN019	MSG5973	10/24/04	1124
	MSG5973	11/02/04	1416
SDN020	MSN5973	11/06/04	1018
	MSN5973	11/08/04	0931
	MSG5973	10/24/04	1124
	MSG5973	11/10/04	1103
	MSE5973	11/16/03	1222

SDG	GC/MS INSTR, ID	DATE	TIME
	MSE5973	11/17/04	0900
SDN022	MSN5973	11/06/04	1018
	MSN5973	11/08/04	0931

None of the semivolatile data was qualified as estimated or rejected as unusable due to non-compliant instrument tuning.

3.3 Initial Calibration

The following initial calibrations were performed on the GC/MS instruments used for semivolatile analysis:

SDG	GC/MS INSTRUMENT ID	DATE	TIME
SDN001	MSK5972	05/24/04	1601
SDN002	MST5973	08/31/04	1112
	MST5973	10/01/04	1540
	MSE5973	10/07/04	0807
	MST5973	10/08/04	0911
SDN003	MST5973	08/31/04	1112
	MST5973	10/01/04	1540
	MSG5973	10/05/04	1549
SDN004	MST5973	10/01/04	1540
SDN005	MST5973	10/07/04	0226
	MST5973	10/08/04	0911
SDN006	MSE5973	10/07/04	0807
	MSJ5971	10/07/04	0807
	MST5973	10/08/04	0911
	MSN5973	10/11/04	1553

SDG	GC/MS INSTRUMENT ID	DATE	TIME
SDN007	MSE5973	10/07/04	0807
	MSJ5971	10/07/04	0807
	MST5973	10/08/04	0911
	MST5971	10/22/04	1047
SDN008	MSN5973	10/11/04	1553
SDN009	MSN5973	10/11/04	1553
	MSE5973	10/18/04	1622
SDN010	MSG5973	10/13/04	1110
	MST5973	10/08/04	0911
	MST5971	10/22/04	1047
SDN011	MST5973	10/08/04	0911
	MSN5973	10/11/04	1553
	MSE5973	10/18/04	1622
	MSE5973	10/22/04	1705
SDN012	MSE5973	10/07/04	0807
	MSG5973	10/24/04	1139
	MSN5973	11/06/04	1043
SDN013	MSE5973	10/23/04	1112
	MSE5973	10/28/04	1442
	MSE5973	10/23/04	1112
	MST5973	11/03/04	0832
SDN014	MSG5973	10/24/04	1139
	MSE5973	10/28/04	1442
	MSN5973	11/06/04	1043
SDN015	MST5973	10/08/04	0911
	MST5973	11/04/04	2203
	MSE5972	11/09/04	1712
SDN016	MST5973	11/01/04	1405
	MST5973	11/03/04	0832

SDG	GC/MS INSTRUMENT ID	DATE	TIME
SDN017	MSJ5971	10/28/04	1205
	MST5973	11/03/04	0832
SDN018	MSE5973	11/03/04	0832
	MSE5972	11/09/04	1712
SDN019	MSG5973	10/24/04	1139
SDN020	MSN5973	11/06/04	1043
	MSG5973	10/24/04	1139
	MSE5973	11/16/04	1241
SDN022	MSN5973	11/06/04	1043

The results of the data validation procedure for the initial calibrations are summarized as follows.

GC/MS Instrument ID MSK5972 – 05/24/04 - 1601

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

All relative response factors (RRFs) for all SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to RRF for this initial calibration.

All percent relative standard deviations (%RSD) for CCCs were less than or equal to 30 percent. None of the data were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MST5973 – 08/31/04 - 1112

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Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

All relative response factors (RRFs) for all SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to RRF for this initial calibration.

All percent relative standard deviations (%RSD) for CCCs were less than or equal to 30 percent. None of the data were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MST5973 – 10/01/04 - 1540

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

All relative response factors (RRFs) for all SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to RRF for this initial calibration.

All percent relative standard deviations (%RSD) for CCCs were less than or equal to 30 percent. None of the data were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MSE5973 – 10/07/04 - 0807

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

All relative response factors (RRFs) for all SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to RRF for this initial calibration.

All percent relative standard deviations (%RSD) for CCCs were less than or equal to 30 percent. None of the data were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MST5973 – 10/08/04 - 0911

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

All relative response factors (RRFs) for all SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to RRF for this initial calibration.

All percent relative standard deviations (%RSD) for CCCs were less than or equal to 30 percent. None of the data were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MSG5973 – 10/05/04 - 1549

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

All relative response factors (RRFs) for all SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to RRF for this initial calibration.

All percent relative standard deviations (%RSD) for CCCs were less than or equal to 30 percent. None of the data were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument MST5973 – 10/07/04 - 0226

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

All relative response factors (RRFs) for all SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to RRF for this initial calibration.

All percent relative standard deviations (%RSD) for CCCs were less than or equal to 30 percent. None of the data were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MSJ5971 – 10/07/04 - 0807

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

All relative response factors (RRFs) for all SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to RRF for this initial calibration.

All percent relative standard deviations (%RSD) for CCCs were less than or equal to 30 percent or in the case of linear regressions greater than 0.990 with the exception of the following compounds:

2.4-Dinitrophenol (0.982)

These compounds were qualified as estimated with a "J" qualifier for detects.

GC/MS Instrument ID MSN5973 – 10/11/04 - 1553

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

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All relative response factors (RRFs) for all SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to RRF for this initial calibration.

All percent relative standard deviations (%RSD) for CCCs were less than or equal to 30 percent. None of the data were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MST5971 – 10/22/04 - 1047

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

All relative response factors (RRFs) for all SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to RRF for this initial calibration.

All percent relative standard deviations (%RSD) for CCCs were less than or equal to 30 percent with the exception of the following compounds:

2.4-Dinitrophenol (44%

Dinoseb (47%)

These compounds were qualified as estimated with a "J" qualifier for detects.

GC/MS Instrument ID MSE5973 – 10/18/04 - 1622

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

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All relative response factors (RRFs) for all SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to RRF for this initial calibration.

All percent relative standard deviations (%RSD) for CCCs were less than or equal to 30 percent. None of the data were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MSG5973 – 10/13/04 - 1110

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

All relative response factors (RRFs) for all SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to RRF for this initial calibration.

All percent relative standard deviations (%RSD) for CCCs were less than or equal to 30 percent. None of the data were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MSE5973 – 10/22/04 - 1705

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

All relative response factors (RRFs) for all SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to RRF for this initial calibration.

All percent relative standard deviations (%RSD) for CCCs were less than or equal to 30 percent. None of the data were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MSG5973 – 10/24/04 - 1139

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

All relative response factors (RRFs) for all SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to RRF for this initial calibration.

All percent relative standard deviations (%RSD) for CCCs were less than or equal to 30 percent. None of the data were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MSN5973 – 11/06/04 - 1043

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

All relative response factors (RRFs) for all SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to RRF for this initial calibration.

All percent relative standard deviations (%RSD) for CCCs were less than or equal to 30 percent. None of the data were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MSE5973 – 10/23/04 - 1112

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Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

All relative response factors (RRFs) for all SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to RRF for this initial calibration.

All percent relative standard deviations (%RSD) for CCCs were less than or equal to 30 percent. None of the data were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MSE5973 – 10/28/04 - 1442

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

All relative response factors (RRFs) for all SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to RRF for this initial calibration.

All percent relative standard deviations (%RSD) for CCCs were less than or equal to 30 percent. None of the data were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MST5973 – 11/03/04 - 0832

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

All relative response factors (RRFs) for all SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to RRF for this initial calibration.

All percent relative standard deviations (%RSD) for CCCs were less than or equal to 30 percent. None of the data were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MST5973 – 11/04/04 - 2203

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

All relative response factors (RRFs) for all SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to RRF for this initial calibration.

All percent relative standard deviations (%RSD) for CCCs were less than or equal to 30 percent. None of the data were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MSE5972 – 11/09/04 - 1712

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

All relative response factors (RRFs) for all SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to RRF for this initial calibration.

All percent relative standard deviations (%RSD) for CCCs were less than or equal to 30 percent. None of the data were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MST5973 –11/01/04 - 1405

PO Box 79782 Houston, TX 77279♦Voice/Fax:(713) 935-0222♦ecschem@sbcglobal.net

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

All relative response factors (RRFs) for all SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to RRF for this initial calibration.

All percent relative standard deviations (%RSD) for CCCs were less than or equal to 30 percent. None of the data were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MSJ5971 – 10/28/04 - 1205

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

All relative response factors (RRFs) for all SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to RRF for this initial calibration.

All percent relative standard deviations (%RSD) for CCCs were less than or equal to 30 percent. None of the data were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MSE5972 – 11/16/04 - 1241

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

All relative response factors (RRFs) for all SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to RRF for this initial calibration.

All percent relative standard deviations (%RSD) for CCCs were less than or equal to 30 percent. None of the data were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

3.4 Continuing Calibration

Each GC/MS employed for samples or associated quality control samples was calibrated for each 12-hour shift in which samples or associated quality control samples were analyzed. Each calibration standard was performed at one concentration level with a standard that contained all test compounds, surrogates and internal standards.

The following continuing calibration were performed on the GC/MS instruments used for 8270 semivolatile analysis:

SDG	GC/MS INSTRUMENT ID	DATE	TIME	ASSOCIATED SAMPLES
SDN001	MSK5972	06/07/04	0951	All samples in this SDG
SDN002	MST5973	09/26/04	1124	S445818-4-12
	MST5973	09/27/04	1108	S445818-3
	MST5973	10/02/04	1650	S445818-3RE-8RE, 10RE, 11RE
	MST5973	10/11/04	1047	S445818-2DL
	MST5973	10/13/04	0902	S445818-3
SDN003	MST5973	09/27/04	1108	S448553-3-12
	MST5973	09/28/04	0951	S448553-1
	MST5973	10/02/04	1650	S448553-5RE
	MSG5973	10/06/04	0945	S448553-1DL, 2, 4RE, 6DL, 7DL, 13
SDN004	MST5973	10/03/04	1513	S448640-2
	MST5973	10/04/04	0825	S448640-12, 13
SDN005	MST5072	10/07/04	1000	S448772-1-13
	MST5972	10/13/04	0902	S448772-12RE
SDN006	MSJ5971	10/09/04	1155	S449066-15
	MSE5973	10/12/04	1358	S449066-1-12

SDG	GC/MS INSTRUMENT ID	DATE	TIME	ASSOCIATED SAMPLES
	MSN5973	10/13/04	0954	S449066-4DL, 5DL, 8DL, 10DL1
	MSN5973	10/14/04	1404	S449066-6DL
	MSN5973	10/15/04	0826	S449066-2DL, 3DL, 9DL, 10DL2
SDN007	MSJ5971	10/09/04	1155	S449132-18
	MST5973	10/13/04	0902	S449132-4, 6, 7
	MST5973	10/14/04	1010	S449132-5, 8-14
	MST5973	10/15/04	1258	S449132-2
	MST5973	10/16/04	1039	S449132-1, 8RE
	MST5973	10/22/04	1318	S449132-3
SDN008	MSN5973	10/13/04	0954	S449161-17
	MSN5973	10/13/04	2348	S449161-2-6
	MSN5973	10/14/04	1010	S449161-7-9
	MSN5973	10/15/04	1258	S449161-10-12
SDN009	MSN5973	10/13/04	0954	S449183-16
SDN009	MSN5973	10/17/04	2228	S499183-3-12
	MSE5973	10/20/04	1201	S499183-1, 2
SDN010	MST5973	10/11/04	1047	S449222-17
	MSG5973	10/18/04	0831	S449222-1-6
	MST5973	10/18/04	0954	S449222-3, 14, 19, 21
	MST5973	10/23/04	1128	S449222-8RE
SDN011	MST5973	10/16/04	1039	S449386-1-3
	MSE5973	10/19/04	0932	S449283-13, 5-13
	MSE5973	10/20/04	1201	S4492831RE, 3DL, 4DL
SDN012	MSG5973	11/01/04	0903	S449560-1-12
	MSN5973	11/08/04	1025	S449560-12DL
SDN013	MSE5973	10/29/04	0913	S449682-1-11
	MST5973	11/07/04	0953	S449682-3DL
SDN014	MSG5973	11/02/04	1511	S449733-1, 2, 4-10, 12
	MSG5973	11/04/04	1157	S449733-3

SDG	GC/MS INSTRUMENT ID	DATE	TIME	ASSOCIATED SAMPLES
	MSN5973	11/08/04	1025	S449733-11
SDN015	MST5973	11/02/04	1237	S449757-1-8, 12
	MST5973	11/07/04	0953	S449757-2DL
	MSE5972	11/10/04	1039	S449757-5RE
SDN017	MSJ5971	11/06/04	1023	S449807-4, 5, 10, 11, 12, 14
	MST5973	11/09/04	1244	S449807-2
	MST5973	11/10/04	1259	S449807-6, 8, 9, 3DL, 4DL, 10DL, 11DL, 13DL, 14DL
	MST5973	11/11/04	1628	S449807-1, 3, 7, 13
SDN018	MSE5972	11/04/04	2204	S449865-1-12
	MSE5972	11/05/04	1911	S449865-16
	MSE5972	11/10/04	1039	S449865-12RE
SDN019	MSG5973	11/02/04	1511	S449920-1
SDN020	MSN5973	11/08/04	1025	S450452-1
	MSG5973	11/10/04	1227	S450452-1DL
SDN020	MSE5973	11/17/04	0924	S450452-1RE, DLRE
SDN022	MSN5973	11/08/04	1025	S450530-1

The results of the data validation procedure for the 8270 continuing calibration(s) were summarized as follows.

GC/MS Instrument ID MSK5972 – 06/07/04 - 0951

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent with the following exception:

COMPOUND	%D	ASSOCIATED SAMPLES

COMPOUND	%D	ASSOCIATED SAMPLES
N-Nitrosodiphenylamine	31	All samples in this SDG

Positive results for the compound and samples listed above were qualified as estimated with a "J" qualifier. Detection limits for non-detects of the compound and samples listed above were qualified as estimated with a "UJ" qualifier.

GC/MS Instrument ID MST5973 – 09/26/04 - 1124

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to %D for this continuing calibration.

GC/MS Instrument ID MST5973 – 09/27/04 - 1108

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to %D for this continuing calibration.

GC/MS Instrument ID MST5973-10/02/04 - 1650

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MST5973 – 10/11/04 - 1047

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MST5973 – 10/13/04 - 0902

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MST5973 – 09/28/04 - 0951

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MSG5973 – 10/06/04 - 0945

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All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MST5973 – 10/03/04 - 1513

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MST5973 - 10/04/04 - 0825

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MST5972 – 10/07/04 - 1000

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MSJ5971 – 10/09/04 - 1155

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MSE5973 – 10/12/04 - 1358

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MSN5973 – 10/13/04 - 0954

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MSN5973 – 10/14/04 - 1404

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All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MSN5973 – 10/15/ 04 - 0826

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MST5973 – 10/14/04 - 1010

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MST5973 – 10/15/04 - 1258

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MST5973 – 10/16/04 - 1039

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MST5973 – 10/22/04 - 1318

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MSN5973 – 10/13/04 - 2348

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MSN5973 – 10/17/04 - 2228

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MSE5972 – 10/20/04 - 1201

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MSG5973 – 10/18/04 - 0831

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MST5973 – 10/18/04 - 0954

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

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All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MST5973 – 10/23/04 - 1128

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MSE5973 – 10/19/04 - 0932

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MSE5973 – 10/20/04 - 1201

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MSG5973 – 11/01/04 - 0903

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MSN5973 – 11/08/04 - 1025

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MSE5973 – 10/29/04 - 0913

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MST5973 – 11/07/04 - 0953

All relative response factors (RRFs) for SPCCs were out of control limits. All percent differences (%D) for CCCs were out of control limits. The one sample associated with this continuing calibration was rejected based on this continuing calibration. (S449682-3DL)

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MSG5973 – 11/02/04 - 1511

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MSG5973 – 11/04/04 - 1157

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MST5973 – 11/02/04 - 1237

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MST5973 – 11/07/04 - 0953

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MSE5972 – 11/10/04 - 1039

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MSJ5971 – 11/06/04 - 1023

All relative response factors (RRFs) for SPCCs were out of control limits. All percent differences (%D) for CCCs were out of control limits. The sampleS associated with this continuing calibration were rejected based on this continuing calibration. (S449807-4, 5, 10, 11, 12, 14)

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MST5973 – 11/09/04 - 1244

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All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MST5973 – 11/10/04 - 1259

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MST5973 – 11/11/04 - 1628

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MSE5973 – 11/04/04 - 2204

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MSE5973 – 11/05/04 - 1911

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MSG5973 – 11/10/04 - 1227

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MSE5973 – 11/17/04 - 0924

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

3.5 Blanks

The following blanks were associated with the semivolatile analyses:

SDG	BLANK ID	GC/MS INST. ID	DATE	TIME	ASSOC. SAMPLES
SDN001	0526D-MB	MSK5972	06/04/04	1618	All samples in this SDG
SDN002	SDN002-3	MST5973	09/27/04	1304	S445818-1-12, 2DL
	SDN02-25	MST5973	10/02/04	1739	S445818-3RE-8RE, 10RE, 11RE
SDN003	SDN003-26	MST5973	09/20/04	1955	S448553-16, 17
	SDN003-3	MSE5973	09/23/04	1647	S448553-1-13
	SDN003-38	MST5973	10/02/04	1739	S4485553-5RE, 4RE
	A1-02-RB (09/11/04)	MST5973	10/27/04	1209	S448553-1-7
	A1-02-RB (09/13/04)	MST5973	10/28/04	1047	S448553-8-13
SDN004	SDN004-3	MST5973	10/03/04	1818	All samples in this SDG
SDN005	SDN005-3	MST5973	10/07/04	1335	S448772-1-13
	SDN005-35	MST5973	10/13/04	1331	S448772-12RE
SDN006	SDN006-3	MSE5973	10/11/04	2025	S449066-1-12, 1DL, 2DL, 3DL, 4DL, 5DL, 6DL, 8DL, 9DL, 10DL
	SDN006-19	MSJ5971	10/08/04	2033	S449066-15
	A1-08 RB	MSJ5971	10/09/04	1510	All samples in this SDG
SDN007	SDN007-26	MSE5973	10/07/04	1343	S449132-18
	SDN007-3	MST5973	10/13/04	1109	S449132-1-14
	A1-18 RB	MSE5973	10/09/04	1537	All samples in this SDG
SDN008	SDN008-3	MSN5973	10/13/04	2044	S449161-1-13
	SDN008-26	MSN5973	10/08/04	2033	S449161-17
	A1-07 RB	MSN5973	10/13/04	1712	All samples in this SDG
SDN009	SDN009-3	MSN5973	10/17/04	2359	S449183-1-12
	SDN008-26	MSN5973	10/08/04	2033	S449183-16
SDN010	SDN010-3	MST5973	10/18/04	1836	S449222-1-13
	SDN010-26	MST5973	10/11/04	1802	S449222-17
	A1-10 RB	MST5973	10/1104	1826	All samples in this SDG
SDN011	SDN011-26	MSN5973	10/14/04	0720	S449283-17, S449386-5
	SDN011-3	MST5973	10/16/04	1737	S449386-1-3, S449283-1-13, 1RE, 4DL, 3DL

SDG	BLANK ID	GC/MS INST. ID	DATE	TIME	ASSOC. SAMPLES
	A1-09 RB	MST5973	10/16/04	1649	All samples in this SDG
	A1-17 RB	MST5973	10/16/04	1713	All samples in this SDG
SDN012	SDN012-3	MSG5973	11/01/04	1941	S449560-1-12, 12DL
	SDN012-19	MSE5973	10/12/04	2122	S449560-16
	A1-12 RB	MSE5973	10/28/04	2338	All samples in this SDG
SDN013	SDN013-3	MST5973	10/13/04	1331	S449682-1-12, 3DL
	A1-6 RB	MSE5973	10/29/04	0030	All samples in this SDG
SDN014	SDN014-3	MST5973	11/05/04	1611	S449733-1-12
	A1-1 RB	MSE5973	10/29/04	0004	All samples in this SDG
SDN015	SDN015-3	MSE5972	10/28/04	2130	S4497571-8, 2DL
	SDN015-34	MSE5973	11/11/04	1659	S449757-5RE
	A1-12 RB	MST5973	11/02/04	1852	All samples in this SDG
SDN016	SDN016-3	MST5973	11/01/04	1908	All samples in this SDG
	A1-5 RB	MST5973	11/01/04	1844	All samples in this SDG
SDN017	SDN017-3	MST5973	11/12/04	0131	All samples in this SDG
SDN018	SDN018-3	MSE5973	11/05/04	0445	S449865-1-12
	SDN018-35	MSE5973	11/11/04	1659	S449865-12RE
	A1-14 RB	MSE5973	11/05/04	2302	All samples in this SDG
SDN019	SDN019-1	MSE5973	10/27/04	1250	S449920-1
SDN020	SDN020-2	MSN5973	11/08/04	1848	S450452-1, 1DL
SDN020	SDN020-9	MSE5973	11/17/04	1030	S450452-1DLRE, RE
SDN022	50530-2	MSN5973	11/06/04	1411	S450530-1

The following target semivolatile compounds were reported in the associated blanks:

SDG	BLANK ID	COMPOUND	CONC.	ASSOC. SAMPLES QUALIFIED AS NON-DETECT
SDN004	SDN004-3	Benzo(k)fluoroanthene	0.030 mg/kg	S448640-1, 2
		Indeno (1,2,3-cd) pyrene	0.028 mg/kg	S448640-1, 2
SDN006	SDN006-3	bis (2-Ethylhexyl) phthalate	0.088 mg/kg	S449066-3-8, 12
SDN009	SDN009-3	bis (2-Ethylhexyl) phthalate	0.077 mg/kg	S449183-4-12
SDN010	SDN010-3	bis (2-Ethylhexyl) phthalate	0.055 mg/kg	S449222-1-9, 11-13
SDN013	SDN013-3	Benzo(k)fluoroanthene	0.016 mg/kg	S449682-6
		Indeno (1,2,3-cd) pyrene	0.029 mg/kg	None

SDG	BLANK ID	COMPOUND	CONC.	ASSOC. SAMPLES QUALIFIED AS NON-DETECT
		Benzo (g,h,I) perylene	0.025 mg/kg	None
SDN014	A1-1 RB	N-Nitroso-di-n-propylamine	0.0073 mg/l	None
		2,4-Dintirotoluene	0.012 mg/l	None
		2,6-Dinitrotoluene	0.017 mg/l	None
		4-Bromophenyl phenyl ether	0.002 mg/l	None
SDN020	SDN020-9	bis (2-Ethylhexyl) phthalate	560 mg/kg	S-450452-1REDL
SDN022	50530-2	Di-n-Butylphthalate	0.0012 mg/l	None

Any semivolatile compounds detected in a sample (other than a common laboratory contaminant), that was also detected in any associated blank were qualified as not detected with a "U" qualifier if the sample concentration was less than five times the blank concentration. For common laboratory contaminants (phthalates), the results were qualified by elevating the quantitation limit to the concentration found in the sample with a "U" qualifier when the sample concentration is less than 10 times the blank concentration. The quantitation limit was elevated to the concentration in the sample. The compounds and samples listed above were qualified as NOT DETECTED based on the guidance defined here.

3.6 Surrogate Samples

Surrogates were not added to the samples analyzed in SDGs SDN001 and SDN020 because these samples were directly injected into the GC/MS. Since the samples were not extracted, there is no need to evaluate surrogates, which measure extraction efficiency. The data user should refer to the internal standard results for information about analytical accuracy for these samples.

All semivolatile surrogate percent recoveries (%R) for the samples covered by this report were within the specified quality control limits with the following exceptions:

SDG	LAB SAMPLE ID	SURROGATE	%R	CONTROL LIMITS
SDN002	S445818-4	2-Fluorophenol (AC)	28	31-105

SDG	LAB SAMPLE ID	SURROGATE	%R	CONTROL LIMITS
		Phenol-d5 (AC)	30	31-105
		Nitrobenzene-d5 (NB)	27	31-99
	S445818-5	Nitrobenzene-d5 (NB)	27	31-99
	S445818-6	Phenol-d5 (AC)	30	31-105
		Nitrobenzene-d5 (NB)	28	31-99
	S445818-7	Nitrobenzene-d5 (NB)	27	31-99
	S445818-8	2-Fluorophenol (AC)	26	31-105
		Phenol-d5 (AC)	27	31-105
		Nitrobenzene-d5 (NB)	24	31-99
		2-Fluorobiphenyl	36	37-106
	S445818-10	2-Fluorophenol (AC)	25	31-105
		Phenol-d5 (AC)	25	31-105
		Nitrobenzene-d5 (NB)	23	31-99
		2-Fluorobiphenyl	34	37-106
	S445818-11	2-Fluorophenol (AC)	30	31-105
		Phenol-d5 (AC)	28	31-105
SDN002	S445818-11	Nitrobenzene-d5 (NB)	24	31-99
		2,4,6-Tribromophenol	25	26-127
SDN003	S448553-4	Nitrobenzene-d5 (NB)	27	31-99
	S448553-5	Nitrobenzene-d5 (NB)	28	31-99
		2-Fluorobiphenyl	34	37-106
SDN005	S448772-12	2-Fluorobiphenyl	36	37-106
SDN007	S449132-8	Nitrobenzene-d5	28	31-99
	S449132-8RE	Nitrobenzene-d5	30	31-99
SDN015	S449757-5	Nitrobenzene-d5	25	31-99
		2-Fluorobiphenyl	36	37-106
SDN018	S449865-12	2,4,6-Tribromophenol	10	26-127
SDN020	S450452-1	Nitrobenzene-d5	120	31-99
		2-Fluorobiphenyl	113	37-106
	S450452-1RE	Nitrobenzene-d5	128	31-99

Positive semivolatile results were qualified as estimated with a "J" qualifier if two or more surrogates per fraction had low or high surrogate recoveries. Semivolatile detection limits for non-detect compounds were qualified as estimated with a "UJ" qualifier based on low surrogate recoveries for two or more surrogates per fraction.

3.7 Matrix Spike/ Matrix Spike Duplicate

Although some project MS/MSD percent recoveries and percent relative percent differences (RPDs) were not within specified quality control limits, none of the samples were qualified based on MS/MSD percent recoveries or relative percent differences. The Functional Guidelines state that data should never be qualified based on matrix spike data alone.

3.8 Laboratory Control Samples

All of the LCS percent recoveries and relative percent differences (RPDs) were within specified quality control limits with the following exceptions:

SDG	LCS ID	COMPOUND	LCS % R	CONT. LIMITS	ASSOC SAMPLES
SDN003	SDN003-38	2,4-Dinitrophenol	17	19-126	S4485553-5RE, 4RE
SDN005	SDN005-35	4-Nitroaniline	112	32-111	S448772-12RE
SDN007	SDN007-3	4-Chlorophenyl phenyl ether	103	38-101	S449132-1-14
		4-Nitroaniline	121	32-111	S449132-1-14
SDN010	SDN010-26	3 and 4 Methylphenol	120	40-116	S449222-1-10
	SDN010-3	2-Chloronaphthalene	115	42-96	S449222-1-10
		4- Nitroaniline	103	38-101	S449222-1-10
SDN013	SDN013-3	2-Chloronaphthalene	100	42-96	S449682-1-11

SDG	LCS ID	COMPOUND	LCS % R	CONT. LIMITS	ASSOC SAMPLES
		4-Nitroaniline	112	32-111	S449682-1-11
SDN014	SDN014-26	3-Nitroaniline	26	41-117	S449733-17
SDN015	SDN015-3	2,4-Dinitrophenol	18	19-126	S449757-1-8
SDN016	SDN016-26	3-Nitroaniline	26	41-117	S449758-17
		3,3'-Dichlorobenzidine	1	10-109	S449758-17
SDN018	SDN018-3	2,4-Dinitrophenol	17	19-126	S449865-1-12
SDN020	SDN020-2	1,4-Dichlorobenzene	96	25-93	S450452-1, 1DL
		1,2,4-Trichlorobenzene	104	26-102	S450452-1, 1DL
		Acenaphthene	112	39-104	S450452-1, 1DL
	SDN020-8	Phenol	11	20-108	S450452-1RE, 1DLRE
		2-Chlorophenol	11	22-109	S450452-1RE, 1DLRE
		1,4-Dichlorobenzene	11	25-93	S450452-1RE, 1DLRE
		Ninitroso-di-n-propylamine	11	17-110	S450452-1RE, 1DLRE
		1,2,4-Trichlorobenzene	11	26-102	S450452-1RE, 1DLRE
SDN020	SDN020-8	4-Chloro-3-methylphenol	11	22-124	S450452-1RE, 1DLRE
		Acenaphthene	11	39-104	S450452-1RE, 1DLRE
		4-Nitrophenol	12	13-133	S450452-1RE, 1DLRE
		2,4-Dinitrotoluene	11	18-125	S450452-1RE, 1DLRE
		Pentachlorophenol	12	17-140	S450452-1RE, 1DLRE
		Pyrene	11	36-132	S450452-1RE, 1DLRE

Positive results for associated samples and compounds listed above were qualified as estimated with a "J" qualifier when the LCS recovery is low or high recoveries. Detection limits for non-detects were rejected with a "UJ" qualifier when the LCS recovery is low.

3.9 Internal Standards

All internal standard area counts were less than a factor of + OR- 50% from the associated calibration standard with the following exceptions:

SDG	SAMPLE ID	INTERNAL STANDARD	RESPONSE	ACCEPTABLE RANGE
SDN007	S449132-3	1,4-Dichlorobenzene-d4	188608	225004-900018
		Naphthalene-d8	862516	953286-3813142
SDN010	S449222-8	Perylene-d12	1340725	314044-1256176
	S449222-8RE	1,4-Dichlorobenzene-d4	749414	159236-636944
		Naphthalene-d8	3089248	648708=2594834
		Acenaphthalene-d10	1537129	280420-1121678
		Phenanthrene-d10	1239243	213852-855406
		Chrysene-d12	1659292	22132-885568
		Perylene-d12	2030783	255850-1023402
SDN011	S449283-1	Perylene-d12	604781	146908-587634
SDN011	S449283-1RE	Chrysene-d12	715779	176112-704448
SDN016	S449758-3	1,4-Dichlorobenzene-d4	94324	109775-439098
		Naphthalene-d8	360082	450841-1803366
		Acenaphthalene-d10	207709	237985-951940
	S449758-3RE	1,4-Dichlorobenzene-d4	85427	103645-414578
		Naphthalene-d8	343011	436849-1747398
		Acenaphthalene-d10	149297	194136-776544

For sample S449132-3, two internal standards were out of control limits and low. The sample was not reanalyzed. The original analysis results were reported as estimated with a "J" qualifier for detected results and a "UJ" qualifier to denote an estimated detection limit for non-detected results based on low internal standard recoveries.

For S449222-8 and 8RE the internal standards were high and the results were non-detect so no qualification was required.

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For samples S449283-1 and S449758-3, both the original and reanalyzed results were out of control limits and the data user should use the original results. The original analysis results were reported as estimated with a "J" qualifier for detected results and a "UJ" qualifier to denote an estimated detection limit for non-detected results based on low internal standard recoveries. The data user should note that the actual concentration of the volatiles present in the samples might be higher than those reported for positive results and may be higher than reporting limits for non-detected results.

The internal standard retention times for the selected samples did not vary more than + or- 30 seconds from the retention time of the associated calibration standard.

3.10 Target Compound Identification

All target compound identifications were acceptable with regard to the supporting data.

3.11 Target Compound Quantitation

All target compound quantitations were acceptable with regard to the supporting data.

3.12 Overall Assessment of Data

All data validation qualifiers applied by ECS are included in Appendix A. No significant problems other than those discussed were encountered during this data validation process.

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4.0 DATA REVIEW OF ORGANOCHLORINE PESTICIDES AND POLYCHLORINATED BIPHENYLS

The following samples were analyzed for organochlorine pesticides and PCBs in this data validation report:

SDG	LAB SAMPLE ID	FIELD SAMPLE ID	MATRIX	DATE COLLECTED
SDN001	S444433-1	EE-11 NAPL	OIL	05/19/04
SDN020	S450-452-1	BR-1 (NAPL)	OIL	10/27/04

4.1 Holding Times

The maximum holding time from date of collection to date of extraction for Pesticides and PCBs in oil samples specified in EPA600/4-81-045 is 30 days. The maximum holding time from date of extraction to date of analysis for Pesticides and PCBs specified in SW-846 is 40 days. This holding time was met for the samples covered by this report. None of the data were qualified based on holding times.

4.2 Initial Calibration

The initial calibrations for organochlorine pesticides and PCBs are summarized as follows:

SDG	GC/ECD INSTRUMENT ID	GC COLUMN	DATE	TIME
SDN001	SGRECD1	ECD1	05/04/04	1236
	SGRECD2	ECD2	05/04/04	1236
	SGRECD1	ECD1	06/01/04	1332
	SGRECD2	ECD2	06/01/04	1332
SDN020	SGIECD1	ECD1	11/04/04	1742

SDG	GC/ECD INSTRUMENT ID	GC COLUMN	DATE	TIME
SDN020	SGIECD2	ECD2	11/04/04	1742
	SGIECD1	ECD1	11/14/04	1325
	SGIECD2	ECD2	11/14/04	1325

All %RSD standards were less than or equal to 20.0 percent. Retention times for all standards within retention time windows. None of the organochlorine pesticides or PCB data were qualified based on initial calibration data

4.3 Continuing Calibration

The organochlorine pesticides continuing calibrations were summarized as follows:

SDG	GC/ECD INSTRUMENT ID	GC COLUMN	DATE	TIME
SDN001	SGRECD1	ECD1	05/05/04	2345
	SGRECD2	ECD2	05/05/04	2345
	SGRECD1	ECD1	05/27/04	0320
	SGRECD2	ECD2	05/27/04	0320
	SGRECD1	ECD1	06/09/04	1153
	SGRECD2	ECD2	06/09/04	1153
	SGRECD1	ECD1	06/09/04	1652
	SGRECD2	ECD2	06/09/04	1652
SDN020	SGIECD1	ECD1	11/16/04	1645
	SGIECD2	ECD2	11/16/04	1645
	SGIECD1	ECD1	11/16/04	1703
	SGIECD2	ECD2	11/16/04	1703
	SGIECD1	ECD1	11/16/04	1852

SDG	GC/ECD INSTRUMENT ID	GC COLUMN	DATE	TIME
SDN020	SGIECD2	ECD2	11/16/04	1852
	SGIECD1	ECD1	11/16/04	1929
	SGIECD2	ECD2	11/16/04	1929

All organochlorine pesticides %D for compounds were less than or equal to 25 percent with the following exceptions:

SDG	GC/ECD INST. ID	DATE	TIME	ASSOC. SAMPLES	STANDARD	%D
SDN001	SDG001	06/09/04	1153	S-444433-1	Endrin ketone	27

The pesticides listed above were qualified as estimated with a "J" qualifier for positive results and a "UJ" qualifier for non-detects.

Retention times were within retention time windows.

4.4 Blanks

The following method blanks were associated with the organochlorine pesticide and PCB analyses in this report:

SDG	BLANK ID	GC/ECD INSTRUMENT ID	DATE ANALYZED
SDN001	SDN001-1	SGRECD1	05/27/04
SDN020	SDN020-2	SGIECD1	11/10/04

None of the organochlorine pesticide or PCB compounds were detected above the method detection limit in any of these blanks.

4.5 Surrogates

All organochlorine pesticide and PCB surrogate percent recoveries (%R) were within the specified advisory quality control limits with the following exceptions:

SDG	SAMPLE ID	SURROGATE	%R	CONTROL LIMITS %R
SDN001	S444433-1DL (DF5)	Decachlorobiphenyl	1850	30-150
	S444433-1DL (DF5)	Decachlorobiphenyl	1550	30-150

Due to the extremely high surrogate recoveries on the DF5 analysis of the sample listed above, these results were rejected and the data user is directed to use the DF 50 results for the PCB results.

4.6 Matrix Spike/ Matrix Spike Duplicate

A project MS/MSD was not analyzed with these SDGs.

4.7 Laboratory Control Samples

A pesticide LCS was not analyzed with this SDG. All of the PCB LCS percent recoveries and relative percent differences (RPDs) were within specified quality control limits. None of the samples were qualified based on LCS data.

4.8 Compound Identification

All compound identifications were acceptable with regard to the supporting data.

4.9 Compound Quantitation

All compound identifications were acceptable with regard to the supporting data. However, the data user should note that for the following pesticide/PCB results, the relative percent difference between the two column results was greater than 40 percent and the reported result may be biased high or low:

SDG	SAMPLE ID	COMPOUND	%D	POTENTIAL BIAS OF REPORTED RESULT
SDN001	S444433-1 (DF5)	4,4'-DDE	148	LOW
	S-444433-1DL (DF50)	4,4'-DDD	42	LOW
		Aroclor 1254	53	LOW
SDN020	S450452-1	alpha-BHC	163	HIGH
		beta-BHC	*	HIGH
		Gamma-BHC	*	HIGH
		Ar1260	*	HIGH

*The secondary column did not confirm the presence of this compound

The results listed above were qualified as estimated with a "J" qualifier.

4.10 Overall Assessment of Organic Data

All data validation qualifiers applied by ECS are included in Appendix A. The data appears acceptable for its intended use based on the review of the quality control items discussed in this section.

5.0 DATA REVIEW OF HERBICIDES

The following samples were analyzed for herbicides in this data validation report:

SDG	LAB SAMPLE ID	FIELD SAMPLE ID	MATRIX	DATE COLLECTED
SDN001	S444433-1	EE-11 NAPL	OIL	05/19/04
SDN020	S450-452-1	BR-1 (NAPL)	OIL	10/27/04

5.1 Holding Times

The maximum holding time from date of collection to date of extraction for Herbicides in oil samples specified in EPA600/4-81-045 is 30 days. The maximum holding time from date of extraction to date of analysis for Herbicides specified in SW-846 is 40 days. This holding time was met for the samples covered by this report. None of the data were qualified based on holding times.

5.2 Initial Calibration

The initial calibrations for herbicides are summarized as follows:

SDG	GC/ECD INSTRUMENT ID	GC COLUMN	DATE	TIME
SDN001	SGSECD1	ECD1	05/27/04	1340
SDN020	SGSECD1	ECD1	10/30/04	1409
	SGSECD2	ECD2	10/30/04	1409
	SGSECD1	ECD1	11/04/04	1529
	SGSECD2	ECD2	11/04/04	1529
	SGSECD1	ECD1	11/04/04	2127

SDG	GC/ECD INSTRUMENT ID	GC COLUMN	DATE	TIME
SDN020	SGSECD2	ECD2	11/04/04	2127

All %RSD standards were less than or equal to 20 percent. None of the herbicides data was qualified based on initial calibration data

5.3 Continuing Calibration

The herbicides continuing calibrations were summarized as follows:

SDG	GC/ECD INSTRUMENT ID	GC COLUMN	DATE	TIME
SDN001	SGSECD1	ECD1	06/02/04	1431
	SGSECD2	ECD2	06/02/04	1431
	SGSECD1	ECD1	06/02/04	2345
	SGSECD2	ECD2	06/02/04	2345
	SGSECD1	ECD1	06/10/04	1847
	SGSECD2	ECD2	06/10/04	1847
	SGSECD1	ECD1	06/10/04	2052
	SGSECD2	ECD2	06/10/04	2052
SDN020	SGSECD1	ECD1	11/04/04	2334
	SGSECD2	ECD2	11/04/04	2334

All herbicides %D for compounds were less than or equal to 25 percent with the following exceptions:

SDG	GC/ECD INSTR. ID	DATE	TIME	ASSOC. SAMPLES	STANDARD	%D
SDN001	SGSECD1	06/10/04	1847	S-444331-1	MCPA	26

The herbicide listed above were qualified as estimated with a "J" qualifier for positive results and a "UJ" qualifier for non-detects.

5.4 Blanks

The following method blanks were associated with the herbicides analyses in this report:

SDG	BLANK ID	GC/ECD INSTRUMENT ID	DATE ANALYZED
SDN001	SDN001-1	SGSECD1	06/02/04
SDN020	SDN020-2	SGSECD-1	11/04/04

None of the organochlorine herbicide compounds were detected above the method detection limit in any of these blanks.

5.5 Surrogates

All organochlorine pesticide and PCB surrogate percent recoveries (%R) were within the specified advisory quality control limits. None of the organochlorine herbicides were qualified based on surrogate data.

5.6 Matrix Spike/ Matrix Spike Duplicate

A project MS/MSD was not analyzed with this SDG.

5.7 Laboratory Control Samples

All of the LCS percent recoveries and relative percent differences (RPDs) were within specified quality control limits.

5.8 Compound Identification

All compound identifications were acceptable with regard to the supporting data.

5.9 Compound Quantitation

All compound quantitations were acceptable with regard to the supporting data. However, the data user should note that for the following herbicide results, the relative percent difference between the two column results was greater than 40 percent and the reported result may be biased high or low:

SDG	SAMPLE ID	COMPOUND	%D	POTENTIAL BIAS OF REPORTED RESULT
SDN020	S450452-1	2,4-D	73	LOW
		Pentachlorophenol	106	LOW

The results listed above were qualified as estimated with a "J" qualifier.

5.10 Overall Assessment of Data

All data validation qualifiers applied by ECS are included in Appendix A. The data appears acceptable for its intended use based on the review of the quality control items discussed in this section.

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6.0 DATA REVIEW OF ICP METALS ANALYSES

The following samples were analyzed for ICP metals in this data validation report:

SDG	LAB SAMPLE ID	FIELD SAMPLE ID	MATRIX	DATE COLLECTED
SDN001	S444433-1	EE-11 NAPL	OIL	05/19/04
SDN020	S450-452-1	BR-1 (NAPL)	OIL	10/27/04

6.1 Holding Times

The maximum holding time from date of collection to date of analysis for ICP metals in organic and solid samples recommended in SW-846 is 6 months. These holding times were met for the samples in this report. None of the ICP metals data in this report were qualified based on holding times.

6.2 Calibration

The following distinct instrument calibrations were performed :

- Initial Calibration (IC)
- Initial Calibration Verification(ICV)
- Continuing Calibration Verification (CCV)

The ICs were performed for every 24-hour period, in which field samples or associated quality control samples were analyzed, or each time the instrument was set up which ever was more frequent. All ICs were performed with the specified number of levels (A blank and 1 standard). None of the data were qualified or rejected as unusable due to the IC data.

All ICVs were performed at a single level immediately following the IC. All analysis results fell within the 90 to 110 percent recovery control limits. All CCVs were performed at a single level at a frequency of 10 percent or every two hours whichever was more frequent. Each analytical run sequence was closed with a CCV and a Continuing Calibration Blank (CCB). All calibration verifications were within the 90 to 110 percent recovery control limits. None of the ICP metal data were qualified based on ICV or CCV data.

6.3 Blanks

All blanks were free of analytes at concentrations above the MDLs with the following exceptions:

SDG	BLANK ID	ANALYTE	CONC	SAMPLES QUALIFIED AS NON-DETECT FOR THIS ANALYTE
SDN001	PB1	Iron	3.8 mg/kg	None
	CCB5	Barium	0.0011mg/l	None
		Iron	0.022 mg/l	None
		Vanadium	0.0014 mg/l	None
SDN020	ICB1	Lead	0.0036 mg/l	None
	CCB1	Iron	0.045 mg/l	None
	CCB2	Silver	0.0018 mg/l	None
	PB1	Chromium	0.12 mg/l	None
		Lead	3.3 mg/l	None
		Iron	0.45 mg/l	None

None of the data required qualification based on blank data because the associated concentrations were either greater than 5 times the blank concentration or non-detect.

6.4 ICP Interference Check Sample (ICS)

An LCS consisting of Solution A and Solution AB was analyzed at the beginning and end of each sample analysis run or a minimum of twice per 8 hour shift, whichever is more frequent. All ICS results were within 80% to 120% of the true value.

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6.5 Laboratory Control Sample (LCS)

All LCS analyses were within the specified percent recovery (%R) control limits of 80% to 120%. None of the ICP metal data were qualified based on LCS data.

6.6 Duplicate Control Sample

All duplicate analyses were within the specified control limits. None of the ICP metal data were qualified based on duplicate data.

6.7 Spike Sample Analysis

All matrix spike analyses were within 75 to 125 percent recovery. None of the ICP metal data were qualified based on spike data.

6.8 ICP Serial Dilution

An ICP Serial dilution analysis was performed on one sample from each sample delivery group. A field blank was not used as the serial dilution sample. If the sample selected for serial dilution, had an analyte at least a factor of 50 above the Instrument Detection Limit, the 5 fold serial dilution agreed within 10 percent difference of the original analysis with the following exception:

SDG	SAMPLE ID	ANALYTE	%D	SAMPLES QUALIFIED AS NON-DETECT FOR THIS ANALYTE
SDN020	S450452-1	Zinc	23	S450452-1

The result listed above was qualified as estimated with a "J" qualifier based on serial dilution results.

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6.9 Sample Result Verification

All ICP metal results were reported accurately based on a review of the raw data.

6.10 Overall Assessment of Data

All data validation qualifiers applied by this data review are included in Appendix A.

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7.0 DATA REVIEW OF MERCURY ANALYSES

The following samples were analyzed for mercury by atomic absorption (AA) in this data validation report:

SDG	LAB SAMPLE ID	FIELD SAMPLE ID	MATRIX	DATE COLLECTED
SDN001	S444433-1	EE-11 NAPL	OIL	05/19/04
SDN020	S450-452-1	BR-1 (NAPL)	OIL	10/27/04

7.1 Holding Times

The maximum holding time from date of collection to date of analysis for mercury recommended in SW-846 is 28 days. This holding time was met for the samples in this report. None of mercury data in this report were qualified based on holding times.

7.2 Calibration

The following distinct instrument calibrations were performed :

- Initial Calibration (IC)
- Initial Calibration Verification(ICV)
- Continuing Calibration Verification (CCV)

The ICs were performed for every 24-hour period, in which field samples or associated quality control samples were analyzed, or each time the instrument was set up which ever was more frequent. All ICs were performed with the specified number of levels (A blank and 5 standard). None of the data were qualified or rejected as unusable due to the IC data.

All ICVs were performed at a single level immediately following the IC. All analysis results fell within the 90 to 110 percent recovery control limits.

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All CCVs were performed at a single level at a frequency of 10 percent or every two hours whichever was more frequent. Each analytical run sequence was closed with a CCV and a Continuing Calibration Blank (CCB). All calibration verifications were within the 80 to 120. None of the mercury data were qualified based on ICV or CCV data.

7.3 Blanks

Mercury was not reported in the associated method or field blanks. None of mercury data were qualified based on blank data.

7.4 Laboratory Control Sample (LCS)

All LCS analyses were within the specified percent recovery (%R) control limits. None of the mercury data were qualified based on LCS data.

7.5 Duplicate Control Sample

All duplicate analyses were within the specified control limits. None of the mercury data were qualified based on duplicate data.

7.6 Spike Sample Analysis

All matrix spike analyses were within 75 to 125 percent recovery. None of the mercury data were qualified based on spike data.

7.7 Furnace Atomic Absorption Quality Control

The precision for all duplicate furnace injections or rerun duplicate injections was within + or - 20 percent relative standard deviation (%RSD). None of the data was qualified or rejected as unusable due to the furnace atomic absorption QC.

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7.8 Sample Result Verification

All mercury results were reported accurately based on a review of the raw data.

7.9 Overall Assessment of Data

All data validation qualifiers applied by this data review are included in Appendix A.

8.0 DATA REVIEW OF WET CHEMISTRY PARAMETERS

The following samples were analyzed for total organic carbon in this data validation report:

SDG	LAB SAMPLE ID	FIELD SAMPLE ID	MATRIX	DATE COLLECTED
SDN002	S448518-1	A1-03 8.5-11	SOIL	09/10/04
	S448518-2	A1-03 11-13.5	SOIL	09/10/04
	S448518-3	A1-03 22.5-25	SOIL	09/10/04
	S448518-4	A1-03 32.5-35	SOIL	09/10/04
	S448518-5	A1-03 47.5-50	SOIL	09/10/04
	S448518-6	A1-03 57.5-60	SOIL	09/10/04
	S448518-7	A1-03 60-62.5	SOIL	09/10/04
	S448518-8	A1-03 72.5-75	SOIL	09/10/04
	S448518-9	A1-03 72.5-75D	SOIL	09/10/04
	S448518-10	A1-03 82.5-85	SOIL	09/10/04
	S448518-11	A1-03 92.5-95	SOIL	09/10/04
	S448518-12	A1-03 102.5-105	SOIL	09/10/04
	S448518-13	A1-03 18-20	SOIL	09/10/04
	S448518-14	A1-03 50-52.5	SOIL	09/10/04
	S448518-15	A1-03 75-77.5	SOIL	09/10/04
SDN003	S448553-1	A1-02 7.5-10	SOIL	09/11/04
	S448553-2	A1-02 12.5-15	SOIL	09/11/04
	S448553-3	A1-02 22.5-25	SOIL	09/11/04
	S448553-4	A1-02 32.5-35	SOIL	09/11/04
	S448553-5	A1-02 47.5-50	SOIL	09/11/04
	S448553-6	A1-02 50-52.5	SOIL	09/11/04
	S448553-7	A1-02 62.5-65	SOIL	09/11/04
	S448553-8	A1-02 75-77.5	SOIL	09/12/04
	S448553-9	A1-02 75-77.5 DUP	SOIL	09/12/04
	S448553-10	A1-02 82.5-85	SOIL	09/12/04
	S448553-11	A1-02 82.5-85 DUP	SOIL	09/12/04
	S448553-12	A1-02 90-92.5	SOIL	09/12/04
	S448553-13	A1-02 105-107	SOIL	09/12/04
	S448553-14	A1-02 20-22.5	SOIL	09/11/04
	S448553-15	A1-02 70-72.5	SOIL	09/11/04
SDN004	S448640-1	A1-16 5-7.5	SOIL	09/13/04
	S448640-2	A1-16 17.5-20	SOIL	09/13/04
	S448640-3	A1-16 27.5-30	SOIL	09/13/04

SDG	LAB SAMPLE ID	FIELD SAMPLE ID	MATRIX	DATE COLLECTED
SDN004	S448640-4	A1-16 35-37.5	SOIL	09/13/04
	S448640-5	A1-16 42.5-45	SOIL	09/13/04
	S448640-6	A1-16 50-52.5	SOIL	09/13/04
	S448640-7	A1-16 50-52.5 DUP	SOIL	09/13/04
	S448640-8	A1-16 60-62.5	SOIL	09/13/04
	S448640-9	A1-16 60-62.5 DUP	SOIL	09/13/04
	S448640-10	A1-16 75-77.5	SOIL	09/13/04
	S448640-11	A1-16 87.5-90	SOIL	09/13/04
	S448640-12	A1-16 92.5-95	SOIL	09/13/04
	S448640-13	A1-16 105-107.5	SOIL	09/13/04
	S448640-14	A1-16 7.5-10	SOIL	09/13/04
	S448640-15	A1-16 70-72.5	SOIL	09/13/04
	S448640-16	A1-16 102.5-105	SOIL	09/13/04
SDN005	S448772-1	A1-11 5-7.5	SOIL	09/14/04
	S448772-2	A1-11 10-12.5	SOIL	09/14/04
	S448772-3	A1-11 20-22.5	SOIL	09/14/04
	S448772-4	A1-11 30-32.5	SOIL	09/14/04
	S448772-5	A1-11 40-42.5	SOIL	09/15/04
	S448772-6	A1-11 40-42.5 DUP	SOIL	09/15/04
	S448772-7	A1-11 57.5-60	SOIL	09/15/04
	S448772-8	A1-11 62.5-65	SOIL	09/15/04
	S448772-9	A1-11 72.5-75	SOIL	09/15/04
	S448772-10	A1-11 72.5-75 DUP	SOIL	09/15/04
	S448772-11	A1-11 82.5-85	SOIL	09/15/04
	S448772-12	A1-11 92.5-95	SOIL	09/15/04
	S448772-13	A1-11 102.5-105	SOIL	09/15/04
	S448772-14	A1-11 25-27.5	SOIL	09/14/04
	S448772-15	A1-11 60-62.5	SOIL	09/15/04
	S448772-16	A1-11 97.5-100	SOIL	09/15/04
SDN006	S449066-1	A1-08 5.0-7.5	SOIL	09/22/04
	S449066-2	A1-08 10.0-12.5	SOIL	09/22/04
	S449066-3	A1-08 22.5-25.0	SOIL	09/22/04
	S449066-4	A1-08 30.0-32.5	SOIL	09/22/04
	S449066-5	A1-08 47.5-50.0	SOIL	09/22/04
	S449066-6	A1-08 47.5-50.0 DUP	SOIL	09/22/04
	S449066-7	A1-08 57.5-60.0	SOIL	09/22/04
	S449066-8	A1-08 60.0-62.5	SOIL	09/22/04
	S449066-9	A1-08 70.0-72.5	SOIL	09/22/04
	S449066-10	A1-08 82.5-85	SOIL	09/22/04
	S449066-11	A1-08 90.09-92.5	SOIL	09/22/04
	S449066-12	A1-08 102.5-105	SOIL	09/22/04
	S449066-13	A1-08 2.5-5.0	SOIL	09/22/04
	S449066-14	A1-08 80.0-82.5	SOIL	09/22/04
SDN007	S449132-1	A1-18 7.5-10	SOIL	09/24/04
	S449132-2	A1-18 7.5-10 DUP	SOIL	09/24/04

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SDG	LAB SAMPLE ID	FIELD SAMPLE ID	MATRIX	DATE COLLECTED
SDN007	S449132-3	A1-18 12.5-15	SOIL	09/24/04
	S449132-4	A1-18 27.5-30	SOIL	09/24/04
	S449132-5	A1-18 32.5-35	SOIL	09/24/04
	S449132-6	A1-18 40-42.5	SOIL	09/24/04
	S449132-7	A1-18 52.5-55	SOIL	09/24/04
	S449132-8	A1-18 67.5-70	SOIL	09/24/04
	S449132-9	A1-18 72.5-75	SOIL	09/24/04
	S449132-10	A1-18 85-87.5	SOIL	09/24/04
	S449132-11	A1-18 85-87.5 DUP	SOIL	09/24/04
	S449132-12	A1-18 95-97.5	SOIL	09/24/04
	S449132-13	A1-18 105-107	SOIL	09/24/04
	S449132-14	A1-18 110-112	SOIL	09/24/04
	S449132-15	A1-18 10-12.5	SOIL	09/24/04
	S449132-16	A1-18 50-52.5	SOIL	09/24/04
	S449132-17	A1-18 102-105	SOIL	09/24/04
SDN008	S449161-1	A1-07 (0-2.5)	SOIL	09/27/04
	S449161-2	A1-07 (10.0-12.5)	SOIL	09/27/04
	S449161-3	A1-07 (35.0-37.6)	SOIL	09/27/04
	S449161-4	A1-07 (35.0-37.5 DUP)	SOIL	09/27/04
	S449161-5	A1-07 (47.5-50.0)	SOIL	09/27/04
	S449161-6	A1-07 (52.5-55.0)	SOIL	09/27/04
	S449161-7	A1-07 (67.5-70.0)	SOIL	09/27/04
	S449161-8	A1-07 (75.0-77.5)	SOIL	09/27/04
	S449161-9	A1-07 (87.5-90.0)	SOIL	09/27/04
	S449161-10	A1-07 (97.5-100.0)	SOIL	09/27/04
	S449161-11	A1-07 (100.0-102.5)	SOIL	09/27/04
	S449161-12	A1-07 (110.0-111.0)	SOIL	09/27/04
	S449161-13	A1-07 (20.0-22.5)	SOIL	09/27/04
	S449161-14	A1-07 (12.5-15.0)	SOIL	09/27/04
	S449161-15	A1-07 (50.0-52.5)	SOIL	09/27/04
	S449161-16	A1-07 (62.5-65.0)	SOIL	09/27/04
SDN009	S449183-1	A1-04 (7.5-10.0)	SOIL	09/25/04
	S449183-2	A1-04 (7.5-10.0) DUP	SOIL	09/25/04
	S449183-3	A1-04 (12.5-15.0)	SOIL	09/25/04
	S449183-4	A1-04 (20-22.5)	SOIL	09/25/04
	S449183-5	A1-04 (35.0-37.5)	SOIL	09/25/04
	S449183-6	A1-04 (40.0-42.5)	SOIL	09/25/04
	S449183-7	A1-04 (57.5-60.0)	SOIL	09/25/04
	S449183-8	A1-04 (67.5-70.0)	SOIL	09/25/04
	S449183-9	A1-04 (70.0-72.5)	SOIL	09/25/04
	S449183-10	A1-04 (80.0-82.5)	SOIL	09/25/04
	S449183-11	A1-04 (92.5-95.0)	SOIL	09/25/04
	S449183-12	A1-04 (105.0-107.5)	SOIL	09/25/04
	S449183-13	A1-04 (22.5-25.0)	SOIL	09/25/04
	S449183-14	A1-04 (52.5-65.0)	SOIL	09/25/04

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SDG	LAB SAMPLE ID	FIELD SAMPLE ID	MATRIX	DATE COLLECTED
SDN090	S449183-15	A1-04 (82.5-85.0)	SOIL	09/25/04
SDN010	S449222-1	A1-10 (5.0-7.5)	SOIL	09/27/04
	S449222-2	A1-10 (20.0-22.5)	SOIL	09/27/04
	S449222-3	A1-10 (20.0-22.5) DUP	SOIL	09/27/04
	S449222-4	A1-10 (35.0-37.5)	SOIL	09/27/04
	S449222-5	A1-10 (40.0-42.5)	SOIL	09/27/04
	S449222-6	A1-10 (40.0-42.5) DUP	SOIL	09/27/04
	S449222-7	A1-10 (57.5-60.0)	SOIL	09/27/04
	S449222-8	A1-10 (65.0-67.5)	SOIL	09/27/04
	S449222-9	A1-10 (75.0-77.5)	SOIL	09/27/04
	S449222-10	A1-10 (75.0-77.5) DUP	SOIL	09/27/04
	S449222-11	A1-10 (80.0-82.5)	SOIL	09/27/04
	S449222-12	A1-10 (90.0-92.5)	SOIL	09/27/04
	S449222-13	A1-10 (105.0-107.5)	SOIL	09/27/04
	S449222-14	A1-10 (25.0-27.5)	SOIL	09/27/04
	S449222-15	A1-10 (47.5-50.0)	SOIL	09/27/04
	S449222-16	A1-10 (82.5-85.0)	SOIL	09/27/04
SDN011	S449283-1	A1-09 (5.0-7.5)	SOIL	09/29/04
	S449283-2	A1-09 (17.5-20.0)	SOIL	09/29/04
	S449283-3	A1-09 (25.0-27.5)	SOIL	09/29/04
	S449283-4	A1-09 (25.0-27.5) DUP	SOIL	09/29/04
	S449283-5	A1-09 (32.5-35.0)	SOIL	09/29/04
	S449283-6	A1-09 (42.5-45.0)	SOIL	09/29/04
	S449283-7	A1-09 (57.5-60.0)	SOIL	09/29/04
	S449283-8	A1-09 (65.0-67.5)	SOIL	09/29/04
	S449283-9	A1-09 (65.0-67.5) DUP	SOIL	09/29/04
	S449283-10	A1-09 (77.5-80.0)	SOIL	09/29/04
	S449283-11	A1-09 (82.5-85.0)	SOIL	09/29/04
	S449283-12	A1-09 (92.5-95.0)	SOIL	09/29/04
	S449283-13	A1-09 (105.0-107.5)	SOIL	09/29/04
	S449283-14	A1-09 (12.5-15.0)	SOIL	09/29/04
	S449283-15	A1-09 (35.0-37.5)	SOIL	09/29/04
	S449283-16	A1-09 (72.5-75.0)	SOIL	09/29/04
	S449386-1	A1-17 5.0-7.5	SOIL	09/30/04
	S449386-2	A1-17 17.5-20.0	SOIL	09/30/04
	S449386-3	A1-17 22.5-25.0	SOIL	09/30/04
	S449386-4	A1-17 12.5-15.0	SOIL	09/30/04
SDN012	S449560-1	A1-12 7.5-10	SOIL	10/05/04
	S449560-2	A1-12 12.5-15	SOIL	10/05/04
	S449560-3	A1-12 22.5-25	SOIL	10/05/04
	S449560-4	A1-12 37.5-40	SOIL	10/05/04
	S449560-5	A1-12 37.5-40 DUP	SOIL	10/05/04
	S449560-6	A1-12 47.5-50	SOIL	10/05/04
	S449560-7	A1-12 52.5-55	SOIL	10/05/04
	S449560-8	A1-12 62.5-65	SOIL	10/05/04

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SDG	LAB SAMPLE ID	FIELD SAMPLE ID	MATRIX	DATE COLLECTED
SDN012	S449560-9	A1-12 72.5-75	SOIL	10/05/04
	S449560-10	A1-12 80-82.5	SOIL	10/05/04
	S449560-11	A1-12 97.5-100	SOIL	10/05/04
	S449560-12	A1-12 110-112	SOIL	10/05/04
	S449560-13	A1-12 17.5-20	SOIL	10/05/04
	S449560-14	A1-12 55-57.5	SOIL	10/05/04
	S449560-15	A1-12 88.5-90	SOIL	10/05/04
SDN013	S449682-1	A1-6 (2.5-5.0)	SOIL	10/06/04
	S449682-2	A1-6 (15.0-17.5)	SOIL	10/06/04
	S449682-3	A1-6 (27.5-30.0)	SOIL	10/06/04
	S449682-4	A1-6 (30.0-32.5)	SOIL	10/06/04
	S449682-5	A1-6 (40.0-42.5)	SOIL	10/06/04
	S449682-6	A1-6 (40.0-42.5) DUP	SOIL	10/06/04
	S449682-7	A1-6 (67.5-70.0)	SOIL	10/06/04
	S449682-8	A1-6 (70.0-72.5)	SOIL	10/06/04
	S449682-9	A1-6 (85.0-87.5)	SOIL	10/06/04
	S449682-10	A1-6 (97.5-100.0)	SOIL	10/06/04
	S449682-11	A1-6 (97.5-100.0) DUP	SOIL	10/06/04
	S449682-12	A1-6 (105.0-107.5)	SOIL	10/06/04
	S449682-13	A1-6 (50.0-52.5)	SOIL	10/06/04
	S449682-14	A1-6 (35.0-37.5)	SOIL	10/06/04
	S449682-15	A1-6 (75.0-77.5)	SOIL	10/06/04
	S449682-16	A1-6 (100.0-102.5)	SOIL	10/06/04
SDN014	S449733-1	A1-1 (0.0-2.5)	SOIL	10/07/04
	S449733-2	A1-1 (25.0-27.5)	SOIL	10/07/04
	S449733-3	A1-1 (35.0-37.5)	SOIL	10/07/04
	S449733-4	A1-1 (40.0-42.5)	SOIL	10/07/04
	S449733-5	A1-1 (40.0-42.5) DUP	SOIL	10/07/04
	S449733-6	A1-1 (50.0-52.5)	SOIL	10/07/04
	S449733-7	A1-1 (67.5-70.0)	SOIL	10/07/04
	S449733-8	A1-1 (72.5-75.0)	SOIL	10/07/04
	S449733-9	A1-1 (82.5-85.0)	SOIL	10/07/04
	S449733-10	A1-1 (82.5-85.0) DUP	SOIL	10/07/04
	S449733-11	A1-1 (97.5-100.0)	SOIL	10/07/04
	S449733-12	A1-1 (105.0-107.5)	SOIL	10/07/04
	S449733-13	A1-1 (12.5-15.0)	SOIL	10/07/04
	S449733-14	A1-1 (20.0-22.5)	SOIL	10/07/04
	S449733-15	A1-1 (57.5-60.0)	SOIL	10/07/04
	S449733-16	A1-1 (90.0-92.5)	SOIL	10/07/04
SDN015	S449757-1	A1-13 (2-4)	SOIL	10/09/04
	S449757-2	A1-13 (11-13.5)	SOIL	10/09/04
	S449757-3	A1-13 (19-21.5)	SOIL	10/09/04
	S449757-4	A1-13 (36-38.5)	SOIL	10/10/04
	S449757-5	A1-13 (36-38.5)DUP	SOIL	10/10/04
	S449757-6	A1-13 (64-66.5	SOIL	10/10/04

SDG	LAB SAMPLE ID	FIELD SAMPLE ID	MATRIX	DATE COLLECTED
SDN015	S449757-7	A1-13 (76.5-79)	SOIL	10/10/04
	S449757-8	A1-13 (106-108.5)	SOIL	10/10/04
	S449757-9	A1-13 (26-28.5)	SOIL	10/10/04
	S449757-10	A1-13 (59-61.5)	SOIL	10/10/04
	S449757-11	A1-13 (74-76.5)	SOIL	10/10/04
SDN016	S449758-1	A1-5 (0-2.5)	SOIL	10/08/04
	S449758-2	A1-5 (12.5-15)	SOIL	10/08/04
	S449758-3	A1-5 (25-27.5)	SOIL	10/08/04
	S449758-4	A1-5 (30-32.5)	SOIL	10/08/04
	S449758-5	A1-5 (40-42.5)	SOIL	10/08/04
	S449758-6	A1-5 (50-52.5)	SOIL	10/08/04
	S449758-7	A1-5 (65-67.5)	SOIL	10/08/04
	S449758-8	A1-5 (77.5-80)	SOIL	10/08/04
	S449758-9	A1-5 (85-85.7)	SOIL	10/08/04
	S449758-10	A1-5 (95-97.5)	SOIL	10/08/04
	S449758-11	A1-5 (105-107.5)	SOIL	10/08/04
	S449758-12	A1-5 (50-52.5) DUP	SOIL	10/08/04
	S449758-13	A1-5 (85-87.5) DUP	SOIL	10/08/04
	S449758-14	A1-5 (10-12.5)	SOIL	10/08/04
	S449758-15	A1-5 (37.5-40)	SOIL	10/08/04
	S449758-16	A1-5 (72.5-75)	SOIL	10/08/04
SDN017	S449807-1	A1-14 (2.5-5.0)	SOIL	10/11/04
	S449807-2	A1-14 (12.5-15.0)	SOIL	10/11/04
	S449807-3	A1-14 (25-27.5)	SOIL	10/11/04
	S449807-4	A1-14 (37.5-40)	SOIL	10/11/04
	S449807-5	A1-14 (45-47.5)	SOIL	10/11/04
	S449807-6	A1-14 (57.5-60.0)	SOIL	10/11/04
	S449807-7	A1-14 (60-62.5)	SOIL	10/11/04
	S449807-8	A1-14 (72.5-75.5)	SOIL	10/11/04
	S449807-9	A1-14 (85-87.5)	SOIL	10/11/04
	S449807-10	A1-14 (92.5-95.0)	SOIL	10/11/04
	S449807-11	A1-14 (102.5-105.0)	SOIL	10/11/04
	S449807-12	A1-14 (112.5-115.0)	SOIL	10/11/04
	S44980713	A1-14 (37.5-40) DUP	SOIL	10/11/04
	S449807-14	A1-14 (102.5-105.0) DUP	SOIL	10/11/04
	S449807-15	A1-14 (20-22.5)	SOIL	10/11/04
	S449807-16	A1-14 (47.5-50.0)	SOIL	10/11/04
	S449807-17	A1-14 (62.5-65)	SOIL	10/11/04
SDN018	S44865-1	A1-15 (7.5-10)	SOIL	10/13/04
	S44865-2	A1-15 (15-17.5)	SOIL	10/13/04
	S44865-3	A1-15 (25-27.5)	SOIL	10/13/04
	S44865-4	A1-15 (32.5-35)	SOIL	10/13/04
	S44865-5	A1-15 (32.5-35) DUP	SOIL	10/13/04
	S44865-6	A1-15 (45-47.5)	SOIL	10/13/04

SDG	LAB SAMPLE ID	FIELD SAMPLE ID	MATRIX	DATE COLLECTED
SDN018	S44865-7	A1-15 (50-52.5)	SOIL	10/13/04
	S44865-8	A1-15 (60-62.5)	SOIL	10/13/04
	S44865-9	A1-15 (77.5-80)	SOIL	10/13/04
	S44865-10	A1-15 (85-87.5)	SOIL	10/13/04
	S44865-11	A1-15 (90-92.5)	SOIL	10/13/04
	S44865-12	A1-15 (105-107.5)	SOIL	10/13/04
	S44865-13	A1-15 (12.5-15)	SOIL	10/13/04
	S44865-14	A1-15 (42.5-45)	SOIL	10/13/04
	S44865-15	A1-15 (75-77.5)	SOIL	10/13/04

8.1 Holding Times

The maximum holding time from date of collection to date of analysis for total organic carbon (TOC) recommended in SW-846 is 28 days. None of total organic carbon data were qualified based on holding times.

8.2 Blanks

Total organic carbon was not reported in the associated method or field blanks. None of TOC data were qualified based on blank data.

8.3 Laboratory Control Sample (LCS)

All LCS analyses were within the specified percent recovery (%R) control limits. None of the TOC data were qualified based on LCS data.

8.4 Duplicate Control Sample

All duplicate analyses were within the specified control limits. None of the TOC data were qualified based on duplicate data.

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8.5 Spike Sample Analysis

All matrix spike analyses were within 75 to 125 percent recovery. None of the TOC data were qualified based on spike data.

8.6 Overall Assessment of Data

All data validation qualifiers applied by this data review are included in Appendix A.

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9.0 DATA REVIEW OF POLYCHLORINATED DIBENZO-P-DIOXINS (PCDD) AND POLYCHLORINATED DIBENZOFURANS (PCDF)

The following samples were analyzed for PCDD and PCDF in this data validation report:

SDG	LAB SAMPLE ID	FIELD SAMPLE ID	MATRIX	DATE COLLECTED
SDN001	S444433-1	EE-11 NAPL	OIL	05/19/04
SDN020	S450-452-1	BR-1 (NAPL)	OIL	10/27/04

9.1 Holding Times

The maximum holding time from date of collection to date of extraction for PCDD and PCDFs in organic and solid samples recommended in SW-846 is 30 days. The maximum holding time from date of extraction to date of analysis for PCDD and PCDF recommended in SW-846 is 45 days. These holding times were met for the samples in this report. None of the PCDD and PCDF data was qualified based on holding times.

9.2 Initial Calibration

The following initial calibrations were performed on the GC/MS instruments used for PCDD and PCDF analysis:

SDG	GC/MS INSTRUMENT ID	DATE	TIME
SDN001	IDB	05/20/04	0956
SDN020	2DB	11/18/04	1759

The results of the data validation procedure for the initial calibrations are summarized as follows.

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GC/MS Instrument ID IDB – 05/20/04 - 0956

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

All signal to noise ratios were greater than or equal to 25:1. None of the data were qualified as estimated or rejected as unusable due to signal to noise ratio for this initial calibration.

All percent relative standard deviations (%RSD) were less than or equal to 15 percent. None of the data were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID 2DB –11/18/04 - 1759

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

All signal to noise ratios were greater than or equal to 25:1. None of the data were qualified as estimated or rejected as unusable due to signal to noise ratio for this initial calibration.

All percent relative standard deviations (%RSD) were less than or equal to 15 percent. None of the data were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

9.3 Continuing Calibration

Each GC/MS employed for samples or associated quality control samples was calibrated for each 12-hour shift in which samples or associated quality control samples were analyzed. Each calibration standard was performed at one concentration level with a standard that contained all test compounds, surrogates and internal standards.

The following continuing calibration were performed on the GC/MS instruments used for PCDD and PCDF analysis:

SDG	GC/MS INSTRUMENT ID	DATE	TIME	ASSOCIATED SAMPLES
SDN001	IDB	06/10/04	1628	All samples in this SDG

The results of the data validation procedure for the continuing calibration(s) were summarized as follows.

GC/MS Instrument ID IDB – 06/10/04 - 1628

All relative response factors (RRFs) were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for reported compounds were less than or equal to 30 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

9.4 Blanks

The following method blanks were associated with the PCDD and PCDF analyses:

SDG	BLANK ID	GC/MS INSTRUMENT ID	DATE
SDN001	GH0KE1AA	IDB	06/10/04
SDN020	G4K030200	2DB	11/19/04

None of the PCDD and PCDF compounds were detected in any of these blanks. None of the data were qualified based on blanks.

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9.5 Surrogate Samples

All surrogate percent recoveries (%R) were within the specified quality control limits. None of the data were qualified based on surrogate recoveries.

9.6 Matrix Spike/ Matrix Spike Duplicate

The MS/MSD percent recoveries and relative percent differences (RPDs) were within specified quality control limits. None of the data were qualified based on MS/MSD percent recoveries or relative percent differences.

9.7 Internal Standards

All internal standard area counts were less than a factor of + OR- 40% from the associated calibration standard. The internal standard retention times for the selected samples did not vary more than + or- 30 seconds from the retention time of the associated calibration standard. None of the data were qualified based on internal standards.

9.8 Target Compound Identification

All target compound identifications were acceptable with regard to the supporting data.

9.9 Target Compound Quantitation

All target compound quantitations were acceptable with regard to the supporting data.

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9.10 Overall Assessment of Data

The PCDD/PCDF data are usable without qualification based on this data review.

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APPENDIX A

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DATA VALIDATION REPORT

SAUGET AREA I
SAUGET, ILLLINOIS
DNAPL INVESTIGATION

OCTOBER 12-13, 2005

Prepared for
Groundwater Services, Inc.
Houston, Texas
December 30, 2005

ECS Environmental Chemistry Services

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1.0 INTRODUCTION

Fourteen solid samples were collected by Groundwater Services, Inc. from Sauget Area I in Sauget, Illinois on October 12 and 13, 2005. One field duplicate and one matrix spike/matrix spike duplicate pair were also collected. The samples were relinquished by GSI under documented chain-of-custody for transport to Severn Trent Services in Savannah, Georgia.

The samples covered by this data validation report were analyzed for some or all of the following parameters by the methods shown:

PARAMETER	PREPRATORY METHOD	ANALYTICAL METHOD
Volatiles	NA	8260B
Semivolatiles	3520C	8270C
Total Organic Carbon	NA	9060

Data were qualified using data validation performed on all of the quality control data provided with a particular sample. Each analyte was identified as one of the following:

- Acceptable for use without restriction
- Qualified as an estimated concentration with a "J"
- Qualified as not detected with an estimated detection limit with a "UJ"
- Qualified as undetected with a "U"
- Rejected as unusable for the intended use with an "R"

For volatile organic and semivolatile organic data, the following items were checked in accordance with the procedures set forth in the USEPA document entitled Contract Laboratory Program National Functional Guidelines for Organic Data Review using the method criteria, if applicable:

- Holding Times
- GC/MS Instrument Performance

- Initial Calibration
- Continuing Calibration
- Blanks
- System Monitoring Compounds (Surrogate Samples)
- Matrix Spike/ Matrix Spike Duplicates
- Laboratory Control Samples
- Internal Standards
- Compound Identification
- Compound Quantitation
- Overall Assessment of Data

For total organic carbon data, the following items were checked in accordance with the procedures set forth in the USEPA document entitled Contract Laboratory Program National Functional Guidelines for Organic Data Review using the QA/QC method criteria, if applicable:

- Holding Times
- Calibration
- Blanks
- Laboratory Control Samples
- Duplicate Sample Analysis
- Spike Sample Analysis
- Overall Assessment of Data

2.0 DATA REVIEW OF VOLATILE ORGANIC COMPOUNDS

The following samples were analyzed for volatiles in this data validation report:

SDG	LAB SAMPLE ID	FIELD SAMPLE ID	MATRIX	DATE COLLECTED
SDN026	680-9413-2	A1-19 (6.0-8.5)	SOLID	10/12/05
	680-9413-3	A1-19 (11.0-13.50)	SOLID	10/12/05
	680-9413-4	A1-19 (28.0-31.0)	SOLID	10/12/05
	680-9413-4MS	A1-19 (28.0-31.0) MS	SOLID	10/12/05
	680-9413-4MSD	A1-19 (28.0-31.0)) MSD	SOLID	10/12/05
	680-9413-5	A1-19 (28.0-31.0) DUP	SOLID	10/12/05
	680-9413-6	A1-19 (33.5-36.0)	SOLID	10/12/05
	680-9413-8	A1-19 (42.5-45.0)	SOLID	10/12/05
	680-9413-9	A1-19 (58.5-60.0)	SOLID	10/12/05
	680-9413-10	A1-19 (66.5-68.0)	SOLID	10/13/05
	680-9413-11	A1-19 (76.0-78.5)	SOLID	10/13/05
	680-9413-13	A1-19 (88.0-90.5)	SOLID	10/13/05
	680-9413-14	A1-19 (93.5-96.0)	SOLID	10/13/05
	680-9413-15	A1-19 (100.0-102.5)	SOLID	10/13/05

2.1 Holding Times

The maximum holding time from date of collection to date of analysis for volatiles in organic and solid samples recommended in the Functional Guidelines is 14 days. These holding times were met for all of the volatile samples in this data set. None of the volatile data were qualified based on holding times.

2.2 GC/MS Instrument Performance

All of the mass calibrations for volatiles met the ion abundance criteria specified by SW-846. GC/MS tunes were conducted at the proper frequency (1 every 12 hours) for this data set. BFB ion abundance criteria were met on the following tunes:

SDG	GC/MS INSTRUMENT	DATE	TIME
SDN026	MSL5972	09/30/05	1455
	MSL5972	10/19/05	1028
	MSL5972	10/20/05	0910
	MSL5972	10/21/05	0841

None of the volatile data in this report were qualified as estimated or rejected as unusable due to noncompliance instrument tuning.

2.3 Initial Calibration

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels as appropriate for these samples. Each calibration standard contained test compounds, surrogates, and internal standards.

The following initial calibration was performed on the GC/MS instrument used for volatile analysis for this data set:

SDG	GC/MS INST ID	DATE	TIME	ASSOCIATED SAMPLES
SDN026	MSL5972	09/30/05	1521	All samples in this SDG

The results of the data validation procedure for the initial calibrations for 8260 compounds are summarized as follows.

GC/MS Instrument ID MSL5972 – 09/30/05 - 1521

The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this initial calibration.

All percent relative standard deviations (%RSD) for Calibration Check Compounds (CCC) were less than or equal to 30 percent. None of the volatile data in this report were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

2.4 Continuing Calibration

Each GC/MS employed for samples or associated quality control samples was calibrated for each 12-hour shift in which samples or associated quality control samples were analyzed. Each calibration standard was performed at one concentration level with a standard that contained all 8260 compounds, surrogates and internal standards. The following 8260 continuing calibrations were performed on the GC/MS instruments used for volatile analysis:

SDG	GC/MS INSTRUMENT ID	DATE	TIME	ASSOCIATED SAMPLES
SDN026	MSL5972	10/19/05	1051	680-9413-2-5, 8-11, 13-15
	MSL5972	10/20/05	0936	680-9413-2DL, 3DL, 4DL, 5DL, 6
	MSL5972	10/21/05	0907	680-9413-4DL

The results of the data validation procedure for the continuing calibrations are summarized as follows.

GC/MS Instrument ID MSL5972 – 10/19/05 - 1051

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.

All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSL5972 10/20/05 - 0936

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1

Compound	RRF Control Limit
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.

All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

GC/MS Instrument ID MSL5972 – 10/21/05 - 0841

This calibration standard was performed at one concentration level with a standard that contained all test compounds. The relative response factors (RRFs) for System Performance Check Compounds (SPCC) were checked to determine whether the following Control Limits were met:

Compound	RRF Control Limit
Chloromethane	0.1
1,1-Dichloroethane	0.1
Bromoform	0.1
Chlorobenzene	0.3
1,1,2,2-Tetrachloroethane	0.3

All RRF met the control limits listed above. None of the volatile data were qualified as estimated or rejected as unusable due to RRFs for this continuing calibration.

All percent differences (%D) for Calibration Check Compounds (CCC) were less than or equal to 25 percent. None of the volatile data were qualified based on continuing calibration %D.

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2.5 Blanks

None of the method blanks contained detections of the reported compounds. None of the volatile data were qualified based on blank data.

2.6 Surrogate Samples

All volatile surrogate percent recoveries (%R) for the samples covered by this report were diluted out due to the high dilutions required with the exception of sample 680-9413-05. The surrogate recoveries were high for this sample. Detected compounds in sample 680-9413-05 were qualified as estimated with a J qualifier. Surrogate recoveries could not be evaluated in the other samples due to the fact that the surrogates were diluted out.

2.7 Matrix Spike/ Matrix Spike Duplicate

Although some project MS/MSD percent recoveries and percent relative percent differences (RPDs) were not within specified quality control limits, none of the samples were qualified based on MS/MSD percent recoveries or relative percent differences. The Functional Guidelines state that data should never be qualified based on matrix spike data alone.

2.8 Laboratory Control Samples

All of the LCS percent recoveries and relative percent differences (RPDs) were within specified quality control limits. None of the volatile data were qualified based on LCS data.

2.9 Internal Standards

All internal standard area counts were less than a factor of + OR- 50% from the associated calibration standard. The internal standard retention times for the selected samples did not vary more than + or- 30 seconds from the retention time of the

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associated calibration standard. None of the volatile data were qualified based on internal standard data.

2.10 Target Compound Identification

All target compound identifications were acceptable with regard to the supporting data.

2.11 Target Compound Quantitation

All target compound quantitations were acceptable with regard to the supporting data.

2.12 Overall Assessment of Data

All data validation qualifiers applied by ECS for the volatile data are included in Appendix A. No significant problems other than those discussed were encountered during this data validation process.

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3.0 DATA REVIEW OF SEMIVOLATILE ORGANIC COMPOUNDS

The following samples were analyzed for semivolatiles in this data validation report:

SDG	LAB SAMPLE ID	FIELD SAMPLE ID	MATRIX	DATE COLLECTED
SDN026	680-9413-2	A1-19 (6.0-8.5)	SOLID	10/12/05
	680-9413-3	A1-19 (11.0-13.50)	SOLID	10/12/05
	680-9413-4	A1-19 (28.0-31.0)	SOLID	10/12/05
	680-9413-4MS	A1-19 (28.0-31.0) MS	SOLID	10/12/05
	680-9413-4MSD	A1-19 (28.0-31.0)) MSD	SOLID	10/12/05
	680-9413-5	A1-19 (28.0-31.0) DUP	SOLID	10/12/05
	680-9413-6	A1-19 (33.5-36.0)	SOLID	10/12/05
	680-9413-8	A1-19 (42.5-45.0)	SOLID	10/12/05
	680-9413-9	A1-19 (58.5-60.0)	SOLID	10/12/05
	680-9413-10	A1-19 (66.5-68.0)	SOLID	10/13/05
	680-9413-11	A1-19 (76.0-78.5)	SOLID	10/13/05
	680-9413-13	A1-19 (88.0-90.5)	SOLID	10/13/05
	680-9413-14	A1-19 (93.5-96.0)	SOLID	10/13/05
	680-9413-15	A1-19 (100.0-102.5)	SOLID	10/13/05

3.1 Holding Times

The maximum holding time from date of collection to date of extraction for semivolatiles in organic and solid samples recommended in the Functional Guidelines is 14 days. The maximum holding time from date of extraction to date of analysis for semivolatile recommended in SW-846 is 40 days. All of these holding times were met for the samples in this report with the following exceptions:

SDG	SAMPLE ID	HOLDING TIME EXCEEDANCE
SDN026	680-9413-2RE	EXTRACTION 6 DAYS
	680-9413-3RE	EXTRACTION 6 DAYS
	680-9413-4RE	EXTRACTION 6 DAYS

SDG	SAMPLE ID	HOLDING TIME EXCEEDANCE
SDN026	680-9413-4DLRE	EXTRACTION 6 DAYS
	680-9413-5RE	EXTRACTION 6 DAYS
	680-9413-6RE	EXTRACTION 6 DAYS
	680-9413-8RE	EXTRACTION 6 DAYS
	680-9413-9RE	EXTRACTION 6 DAYS
	680-9413-10RE	EXTRACTION 6 DAYS
	680-9413-11RE	EXTRACTION 6 DAYS
	680-9413-13RE	EXTRACTION 6 DAYS
	680-9413-14RE	EXTRACTION 6 DAYS
	680-9413-15RE	EXTRACTION 6 DAYS

Associated reported results were qualified as estimated with a "J" qualifier for detects and a "UJ" qualifier for non-detects.

3.2 GC/MS Instrument Performance

All of the mass calibrations for semivolatiles met the ion abundance specified by the Functional Guidelines. GC/MS tunes were conducted at the proper frequency (1 every 12 hours). Ion abundance criteria were met as follows:

SDG	GC/MS INSTR, ID	DATE	TIME
SDN026	MSG5973	10/27/05	0717
	MSE5973	11/11/05	0828
	MSE5973	11/13/05	1001
	MSF5973	11/08/05	1031
	MSE5973	10/27/05	0834
	MSG5973	11/10/05	1001
	MST5973	10/25/05	0737
	MST5973	10/28/05	0632

SDG	GC/MS INSTR, ID	DATE	TIME
	MST5973	10/30/05	1856

None of the semivolatile data was qualified as estimated or rejected as unusable due to non-compliant instrument tuning.

3.3 Initial Calibration

The following initial calibrations were performed on the GC/MS instruments used for semivolatile analysis:

SDG	GC/MS INSTRUMENT ID	DATE	TIME
SDN026	MSG5973	10/27/05	0734
	MSE5973	10/27/05	0859
	MST5973	10/25/05	0844

The results of the data validation procedure for the initial calibrations are summarized as follows.

GC/MS Instrument ID MSG5973 – 10/27/05 - 0734

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

All average relative response factors (RRFs) for all SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to RRF for this initial calibration.

All percent relative standard deviations (%RSD) for CCCs were less than or equal to 30 percent. None of the data were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MSE5973 – 10/27/05 - 0859

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

All average relative response factors (RRFs) for all SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to RRF for this initial calibration.

All percent relative standard deviations (%RSD) for CCCs were less than or equal to 30 percent. None of the data were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

GC/MS Instrument ID MST5973 – 10/25/05 - 0844

Each GC/MS employed for samples or associated quality control samples was calibrated independently at five concentration levels. Each calibration standard contained all test compounds, surrogates, and internal standards.

All average relative response factors (RRFs) for all SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to RRF for this initial calibration.

All percent relative standard deviations (%RSD) for CCCs were less than or equal to 30 percent. None of the data were qualified as estimated or rejected as unusable due to percent relative standard deviations for this initial calibration.

3.4 Continuing Calibration

Each GC/MS employed for samples or associated quality control samples was calibrated for each 12-hour shift in which samples or associated quality control samples were analyzed. Each calibration standard was performed at one concentration level with a standard that contained all test compounds, surrogates and internal standards.

The following continuing calibration were performed on the GC/MS instruments used for 8270 semivolatile analysis:

SDG	GC/MS INSTRUMENT ID	DATE	TIME	ASSOCIATED SAMPLES
SDN026	MSE5973	11/11/05	0843	680-9413-15RE
	MSE5973	11/13/05	1047	680-9413-14RE
	MSE5973	11/08/05	1404	680-9413-02RE, 04RE, 04REDL, 05RE, 06RE, 08RE, 09RE, 10RE, 11RE
	MSG5973	11/10/05	1026	680-9413-03RE, 13RE
	MST5973	10/28/05	0649	680-9413-02-06, 08-11, 13
	MST5973	10/30/05	2055	680-9413-04DL, 14, 15

The results of the data validation procedure for the 8270 continuing calibration(s) were summarized as follows.

GC/MS Instrument ID MSE5973 – 11/11/05 - 0843

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to %D for this continuing calibration.

GC/MS Instrument ID MSE5973 – 11/13/05 - 1047

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to %D for this continuing calibration.

GC/MS Instrument ID MSE5973 – 11/08/05 - 1404

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent with the following exception:

COMPOUND	%D	ASSOCIATED SAMPLES
Di-n-octyl-phthalate	34	680-9413-02RE, 04RE, 04REDL, 05RE, 06RE, 08RE, 09RE, 10RE, 11RE

Positive results for the compound and samples listed above were qualified as estimated with a "J" qualifier. Detection limits for non-detects of the compound and samples listed above were qualified as estimated with a "UJ" qualifier.

GC/MS Instrument ID MSG5973 – 11/10/05 - 1026

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MST5973 – 10/28/05 - 0649

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

GC/MS Instrument ID MST5973 – 10/30/05 - 2055

All relative response factors (RRFs) for SPCCs were greater than or equal to 0.05. None of the data were qualified as estimated or rejected as unusable due to the relative response factors for this continuing calibration.

All percent differences (%D) for CCCs were less than or equal to 25 percent. None of the data were qualified as estimated or rejected as unusable due to the %D for this continuing calibration.

3.5 Blanks

The only method blank that contained detections of the reported compounds was the method blank for the original analysis of samples 680-9413-02-04, 04DL, 05, 06, 08-11, 13-15. This method blank contained bis (2-Ethylhexyl) phthalate in a concentration 0f 640 ug/kg. These samples were reanalyzed. The data user is directed to use the reanalyzed result for bis (2-Ethylhexyl) phthalate in samples 680-9413-08, 09, 10, 11 and 13 because detections in the original analysis resulted in a raised detection limit in the original samples. For all other samples and compounds the original analysis should be used.

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3.6 Surrogate Samples

All semivolatile surrogates for the samples covered by this report were diluted out due to the high dilutions required. The surrogates could not be evaluated.

3.7 Matrix Spike/ Matrix Spike Duplicate

Although some project MS/MSD percent recoveries and percent relative percent differences (RPDs) were not within specified quality control limits, none of the samples were qualified based on MS/MSD percent recoveries or relative percent differences. The Functional Guidelines state that data should never be qualified based on matrix spike data alone.

3.8 Laboratory Control Samples

All of the LCS percent recoveries and relative percent differences (RPDs) were within specified quality control limits. None of the semivolatiles were qualified based on LCS data.

3.9 Internal Standards

All internal standard area counts were less than a factor of + OR- 50% from the associated calibration standard. The internal standard retention times for the selected samples did not vary more than + or- 30 seconds from the retention time of the associated calibration standard. None of the semivolatile data were qualified based on internal standards.

3.10 Target Compound Identification

All target compound identifications were acceptable with regard to the supporting data.

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3.11 Target Compound Quantitation

All target compound quantitations were acceptable with regard to the supporting data.

3.12 Overall Assessment of Data

All data validation qualifiers applied by ECS are included in Appendix A. No significant problems other than those discussed were encountered during this data validation process.

4.0 DATA REVIEW OF WET CHEMISTRY PARAMETERS

The following samples were analyzed for total organic carbon in this data validation report:

SDG	LAB SAMPLE ID	FIELD SAMPLE ID	MATRIX	DATE COLLECTED
SDN026	680-9413-1	A1-19 (2.5-5.0)	SOLID	10/12/05
	680-9413-2	A1-19 (6.0-8.5)	SOLID	10/12/05
	680-9413-3	A1-19 (11.0-13.50)	SOLID	10/12/05
	680-9413-4	A1-19 (28.0-31.0)	SOLID	10/12/05
	680-9413-4MS	A1-19 (28.0-31.0) MS	SOLID	10/12/05
	680-9413-4MSD	A1-19 (28.0-31.0)) MSD	SOLID	10/12/05
	680-9413-5	A1-19 (28.0-31.0) DUP	SOLID	10/12/05
	680-9413-6	A1-19 (33.5-36.0)	SOLID	10/12/05
	680-9413-7	A1-19 (36.0-38.5)	SOLID	10/12/05
	680-9413-8	A1-19 (42.5-45.0)	SOLID	10/12/05
	680-9413-9	A1-19 (58.5-60.0)	SOLID	10/12/05
	680-9413-10	A1-19 (66.5-68.0)	SOLID	10/13/05
	680-9413-11	A1-19 (76.0-78.5)	SOLID	10/13/05
	680-9413-12	A1-19 (78.5-80.0)	SOLID	10/13/05
	680-9413-13	A1-19 (88.0-90.5)	SOLID	10/13/05
	680-9413-14	A1-19 (93.5-96.0)	SOLID	10/13/05
	680-9413-15	A1-19 (100.0-102.5)	SOLID	10/13/05

4.1 Holding Times

The maximum holding time from date of collection to date of analysis for total organic carbon (TOC) recommended in SW-846 is 28 days. None of total organic carbon data were qualified based on holding times.

4.2 Blanks

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Total organic carbon was not reported in the associated method or field blanks. None of TOC data were qualified based on blank data.

4.3 Laboratory Control Sample (LCS)

All LCS analyses were within the specified percent recovery (%R) control limits. None of the TOC data were qualified based on LCS data.

4.4 Duplicate Control Sample

All duplicate analyses were within the specified control limits. None of the TOC data were qualified based on duplicate data.

4.5 Spike Sample Analysis

All matrix spike analyses were within 75 to 125 percent recovery. None of the TOC data were qualified based on spike data.

4.6 Overall Assessment of Data

All data validation qualifiers applied by this data review are included in Appendix A.

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APPENDIX A